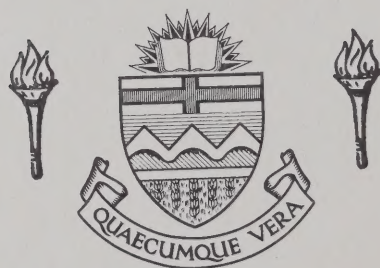


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To the Lieutenant-Governor in Council

Sir:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1962, and investments as they stood at the end of the fiscal year. Appended to this report is the report of the President of the University, in which the academic work of the University for the Year July 1, 1961 to June 30, 1962, is dealt with in detail.

C. M. MACLEOD, Chairman

W. H. JOHNS, President

December 15, 1962

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PRESIDENT'S REPORT TO CONVOCATION

November 18, 1961

Eminent Chancellor, Your Honour, Distinguished Guests, Ladies and Gentlemen:

The year 1961 will probably go down in history as the greatest year for planning since the University's foundation. This is not surprising, since we are about to experience a great increase in the rate of growth of the University in all its aspects, and it is essential that we make intelligent provision for the development by a careful scrutiny of the University's needs in organization, curriculum, staff, and physical facilities.

The Board of Governors have been conscious of this need for some time now and they agreed earlier this year to ask the provincial Government to appoint a committee to survey the needs of higher education throughout the province. The Lieutenant Governor in Council has now appointed such a committee under the chairmanship of Honourable E. W. Hinman, Provincial Treasurer, and several meetings have already been held. The work of this committee is expected to continue over the coming months, and I understand that a progress report may be made to the Legislature, probably at its regular session in 1962.

The University itself is also concerned about plans for the future and one of the busiest groups on the campus is the Academic Planning Committee comprising the Deans' Council and representatives of the teaching staff under my chairmanship. The function of this committee is to decide, insofar as possible, the needs of the province in higher education over the coming years and to assign priorities to the various proposals that have come in from the academic Departments and from interested individuals and groups throughout the province. Several meetings have already been held and more are scheduled. When the work of this committee has been completed, its recommendations will be forwarded to the Board of Governors and to the Government's Survey Committee on Higher Education.

Another active committee is the Campus Planning Committee under the chairmanship of the Vice-President, Dr. L. H. Cragg, with Dr. G. W. Govier, Dean of the Faculty of Engineering, serving as acting chairman in Dr. Cragg's absence. This Committee has the heavy responsibility of assessing the need of the University for physical facilities on both campuses, Edmonton and Calgary, in the coming years

and making recommendations for the Board of Governors on priorities for new construction and the conversion of space in existing buildings to other uses. In this objective it is assisted by two other committees, one on Space Allocation and Alterations, the other on Grounds and Utilities.

From the deliberations of all these various committees we hope there will emerge in due course a blue-print for the development of higher education in Alberta over the next twenty years. It is not possible to specify at this time all the matters which will appear on the agenda of these committees, but some consideration will be given to such matters as the establishment of new areas of education such as Veterinary Science and Social Work, the relative responsibilities of the Edmonton and Calgary campuses, the role of junior colleges, and the expansion of the Edmonton campus into the area of North Garneau.

Once again I am happy to report progress on new buildings for the University, one of which, - the Gymnasium - has almost been completed on the Calgary campus. In Edmonton construction has been started on the new Student Health Centre and tenders are out for the large building to provide accommodation for the Faculty of Education on 87th Avenue. Plans are rapidly proceeding for the new student dormitories and dining hall in Edmonton, as well as for the research library and the armed services building. The Library for the Calgary campus is also in the active planning stage and a number of other projects are in the preliminary stages of consideration by the Campus Planning Committee. In Banff the final wing on the Administration Building has been approved and construction should start shortly.

Registration figures for the fall emphasize the urgency of these plans for new facilities. The increase this year was 1, 158, slightly in excess of last year's figure of 1, 123, giving a total of 9, 099 for day-time students plus 1, 560 registered in Evening Credit courses in fourteen centres throughout the province making a grand total of 10, 659 registered students taking at least one university course this winter. The Faculty of Education leads all the rest with 1, 937 registered in Edmonton and 692 in Calgary for a total of 2, 629 teachers-in-training. One interesting addition to the list is the first class of dental auxiliaries with 20 young women registered and hard at work. I am happy to say also that the registration at Lethbridge Junior College, affiliated with the University, has reached 132 full-time degree candidates this year.

Rather than provide further statistics on student numbers in the various faculties at this time, I have asked Dr. Taylor, the Principal of the University of Alberta, Calgary, to give you figures for this campus,

and I shall make a few comments about foreign students at our University and the significance we attach to their presence there. According to the latest figures available we have this year a total of 328 students from outside Canada, of whom 313 are in Edmonton and 15 in Calgary. They come from 43 different countries in all parts of the world. The largest number - 56 - come from England, Scotland and Wales with 43 from the United States of whom 28 are registered in the Faculty of Graduate Studies, most of them for the Doctorate. India supplies 37, the West Indies 18, Hong Kong 16, Ireland 14, and Pakistan 13. Others come from Argentina, Australia, and Austria, from Ghana, Kenya, Nigeria, and Nyassaland, from Spain, Switzerland, and Yugoslavia. The contribution these welcome guests can and do make to the student life of our University cannot be measured in ordinary terms.

On the other hand, we can, I hope, make a worth-while contribution to these able and ambitious young people which will not only benefit them personally, but will in due course be of great value to the countries from which they have come and to which they will, in many cases, be expected to return on the completion of their programs of study here.

You will have read in your newspapers of the special conference which has just concluded in Ottawa on the theme "Canada's Universities in a New Age". I should like to quote at length from an address delivered at this conference by Dr. J. F. Leddy, Academic Vice-President of the University of Saskatchewan:

"The attendance of foreign students has become a significant phenomenon in Canadian universities only in the past decade and notably in the past five years as the total has risen steadily, year by year, usually with an annual increase of about 400. There is every indication that these increases will be maintained and probably even augmented in the immediate future, a situation which will create some problems but which will bring many important advantages both to our universities and to Canada, far outweighing any incidental inconvenience to us."

"We should welcome this development and see in it an opportunity for us to repay by reassignment, Canada's long-standing debt to the many foreign countries which have accepted our University students in the past fifty years. We should recognize that we can perform an inestimable service for foreign students, in many cases probably not available to them anywhere else, at a crucial period in their lives, giving them training which will permanently influence the direction and the value of their subsequent careers. And we should gladly acknowledge that

foreign students make a contribution of their own to the outlook and the spirit of the student body as a whole. They direct the friendly attention of Canadian students to foreign countries and to international questions which would otherwise appear remote. They are a living illustration and a constant reminder, close at hand, of the reality which stands behind the rhetoric about the new international age into which we have now moved.

We professors take their presence for granted now, as if they had always been part of the Canadian university scene, but in fact they constitute the most striking change on the campus since the War. In my experience pre-War alumni returning to the university are even more impressed (and pleased) by what they regard as the novelty of foreign students than they are by the many new buildings recently erected. "

Dr. Leddy's words apply to most Universities in Canada, and I am happy to say that the University of Alberta is making its contribution to this important work. I should like to conclude my discussion of this topic by quoting the words of Dr. F. Cyril James, Principal and Vice-Chancellor of McGill University, on the same theme:

"Higher education has, over the centuries, been one of the forces that have powerfully influenced the development of western civilization and laid the foundations of democracy. If we are concerned about the pattern of world society in the twenty-first century, the most important events of the last few years are not the explosion of atomic bombs but the kind of education that is being made available to the young men and women in Africa, Asia and South America. It is in the minds of those now in school and college that the ultimate battle of the cold war will be won or lost, and the pattern of development of the two hundred new universities that have come into existence outside our borders since 1945 may well be more important during the lives of our children than the rapid development for higher education within Canada itself. "

No more dramatic nor significant words have been spoken on the subject of higher education in this Canada of ours.

I have, so far, said little about the academic developments that are taking place this year and I propose to say only that the rapidly growing numbers of teaching staff are devoting their thought and their energies to keeping up the search for truth and its propagation among the students in their charge. Instead I wish today to say a few words about educational opportunities available outside the formal curriculum and the classroom.

At the latest count there were about ninety clubs and societies on the Edmonton campus and I am sure the number in Calgary is proportionately large. First of all, there are the Faculty and School clubs, ranging from the Agricultural Club through to the Theology Club and the Graduate Students' Association. Thirteen other clubs bring together groups of students who have special interest in such fields of study as French, Chemistry, History, Economics, and Psychology. Students from China, India, and Poland have their national clubs and there are twelve separate clubs whose members meet together as religious groups of various separate faiths or on an inter-denominational basis. There are clubs for those interested in debating, music, radio, ballet, drama, and photography. For those who wish to participate in sport there are clubs for badminton, curling, fencing, judo, skiing, wrestling, track and field, and table tennis.

The executive experience alone which these organizations provide is far-reaching and the opportunities for learning, for recreation, and for friendly association of students of common interests are very important indeed. The public sometimes feel deep concern at the evidence they see (or hear about) of young people at the Universities being rowdy or impertinent or cynical. I can say with confidence that these are the rare exceptions and that the vast majority of the thousands of young people in the Universities of Canada, including our own, are spending their time profitably in study, in healthy exercise, intellectual as well as physical, and that they are a credit to their families, their professors, and their nation.

In conclusion, may I say a public word of congratulations and good wishes to those who today receive the degrees to which they are now entitled, including those who will receive honorary degrees, and to introduce Principal Taylor who will have a few special words to say about the Calgary Campus.

PRESIDENT'S REPORT TO CONVOCATION

May 24, 1962

Your Honour, Distinguished Guests, Ladies and Gentlemen:

My first task this afternoon must be to express my deep regret at the absence today of two men who have for some years been distinguished members of our Platform Party. His Honour Judge L. Y. Cairns, our Chancellor, and the Honourable A. O. Aalborg, Minister of Education, have both been advised by their physicians not to subject themselves to the strain of participating in our ceremonies today, but I am fortunately able to report that both are making good progress in their convalescence. On behalf of you all, I extend to them our warmest good wishes for a speedy and complete recovery.

Just over fifty years ago, the University of Alberta graduated its first class of students who had received all their education at this institution. Seventeen students received the B. A. Degree, and one each received the B.Sc. in Arts, the M. A. (in Classics) and the M.Sc. (in Mathematics). President Tory, in his report to Convocation told of the progress being made on the construction of Athabasca Hall, which was not finished, but which was partly in use, and gave the registration figures for the year as 186 students. As many of you know, Chancellor Cairns was a member of that first class, and we are particularly sorry that he cannot be here in person to celebrate his own jubilee. Other surviving members of the class were unable to attend for various reasons, but I wish to pay tribute to them today and to the contribution they have made over the years to this country.

No new buildings are scheduled for formal opening this spring, but the new Physical Education Centre was opened this past winter on the Calgary campus. The Engineering Building addition on the Edmonton campus has been in use throughout the session, and it is tentatively planned that formal opening ceremonies will be held in connection with a meeting of the Engineering Institute of Canada here in September. The Student Health Centre on the Hospital campus is nearly complete, and a good beginning has been made on the new Education Building. We hope that the former will be ready for Summer Session this year and the latter for September, 1963.

Plans are nearing completion for the Student Residence Complex on the Edmonton campus. There has been a delay in the preparation of

the mechanical drawings, but we hope that the tenders can be called by June 15th. This may mean that the residences will not be ready for occupancy by September, 1963, but we understand that every effort will be made to meet this deadline. Plans for residences on the Calgary campus will be started shortly. Plans are also well advanced for the Bookstore and Terminal Building and the Library on the Calgary campus and for the new Research and Graduate Library on the Edmonton campus. Other buildings on which we hope a start may be made this year include the Social Science Building, the Structural Engineering Building and the enlarged Van de Graaf Building on the Edmonton campus, and the Engineering Building and the Arts Building on the Calgary campus.

I mentioned in my report to Convocation last fall that this year would doubtless be regarded as the greatest year for planning in the University's history. The Campus Planning Committee has made great progress in the drafting of plans for the physical development of the Edmonton and Calgary campuses for the next twenty years, and these are receiving the careful scrutiny of the Board of Governors. In these matters we continue to have the benefit of the advice and counsel of Professor Louis A. DeMonte, Chief Architect of the University of California, who recently paid his third visit to Alberta where he studies the draft plans for both campuses.

All these developments provide an indication of the activities proceeding apace in the University's affairs. It will be obvious to all that these require very substantial sums of money, and it is most gratifying to report the continued generous support of the Provincial Government and Legislature, who this year have allocated nine and a half million dollars to the current operation of the University, as well as over ten million dollars for capital equipment, buildings, and sundry. The Federal Government has also approved an increase in aid for universities, based on two dollars a head of population instead of the previous dollar and a half. This will mean an increase of over six hundred thousand dollars for the University of Alberta and the other colleges which are eligible for this aid throughout the Province.

The Province provides assistance to the University in still another way through its Matriculation and Undergraduate Scholarship Program. Matriculation scholarships and loans went to 299 first year students in an amount of close to \$80,000. Grants and loans were made in all to 2,177 students with \$273,502.00 being awarded in outright grants and \$550,000.00 in loans.

Research is becoming an increasingly important part of the University's activity and over 8% of the University's income goes directly for this purpose, amounting to nearly one million dollars in 1960-61. These figures are rising each year and will, no doubt, continue to rise

as more and more emphasis is placed on graduate education and research.

The academic life of the University continues to change and develop constantly in keeping with the changing needs of society for higher education and professional training. The most important administrative development this year has been the decision to divide the Faculty of Arts and Science on the Edmonton campus into two Faculties, with Dean D. E. Smith retaining responsibility for the Faculty of Arts and Dr. H. S. Armstrong, Dean of the Faculty of Arts and Science at McMaster University, assuming the position of Dean of the Faculty of Science, effective July 1st of this year. In spite of this change there will continue to be a close association between these two Faculties and details of the new organization will be worked out during the coming session. I am pleased to report, as well, that Dr. H. S. Baker, a distinguished member of the Faculty of Education on the Edmonton campus, has accepted the position of Dean of the Faculty of Education in Calgary.

Approval has been given to a new program leading to the degree of Bachelor of Arts in Recreational Activities to be administered by the School of Physical Education and to a new honors program in Genetics, and a new pattern in Food Science in the Faculty of Agriculture. Substantial re-organization has taken place in the curricula of the Faculties of Agriculture, Dentistry, Engineering, and Education. In the Faculty of Education, the former Junior Elementary Program of one year duration has been discontinued and the minimum program for a teaching certificate will hereafter be two years in length. In keeping with the plans for increased programs for technical training in Edmonton and throughout the Province, the Board has established a new Division of Vocational and Industrial Education in the Faculty of Education. The undergraduate program leading to the degree of Bachelor of Science in Petroleum Engineering is to be discontinued, but two undergraduate courses in this field will still be offered as options and the graduate program will be carried on as before.

The changes and additions to the offerings of individual courses continue at a high level. Nearly every Department in the University (and these are now about 60 in number) has made some change, but most have occurred in Biochemistry, Geography, Geology, History, Modern Languages, Music and Sociology. Continued evidence of the University's growing maturity is found in the roster of Departments which have been given authority to provide instruction at the doctorate level. With the additions made this year, the following Departments may offer such programs: Animal Science, Dairy Science, Entomology, Genetics, Plant Science, and Soil Science in the Faculty of Agriculture; Botany, Chemistry, English, Geology, History, Mathematics, Philosophy, Physics, Psychology, Political Economy, and Zoology in the Faculty of Arts and Science;

Educational Administration, Educational Foundations, Educational Psychology and Secondary Education in the Faculty of Education; Chemical and Petroleum Engineering, Civil Engineering (Structures only), Mechanical Engineering, and Metallurgical Engineering in that Faculty; Biochemistry, Pharmacology, and Physiology in the Faculty of Medicine; and in Pharmacy in that Faculty. There are at the present time 66 candidates for the Ph.D. registered in Chemistry, 19 in Physics, and 12 in Geology, as well as many others in the various Departments and Divisions mentioned above. In addition there are a number of Post-Doctoral Fellows studying on the campus, some of whom are supported by grants from the University, but the majority by such agencies as the National Research Council. The first and only Post-Doctoral Fellow to take advanced work in a college of Pharmacy in Canada has been appointed to the University of Alberta Faculty of Pharmacy on a fellowship from the National Research Council.

The Academic Planning Committee have been hard at work this past year and have made a number of proposals which, in due course, will be placed before the appropriate statutory bodies for decision and action. One of these has to do with the steady growth of autonomy in academic matters for the Calgary campus. In this regard we are adopting a policy ascribed by the poet Tennyson to England:

"Where freedom slowly broadens down from precedent to precedent."

Others have to do with such new areas of professional education, which we regard as of vital importance to Alberta and western Canada, as Veterinary Medicine, Social Work, and Town Planning. A sub-committee has examined the use of television for education, and studies of its possible application to the University are still going forward.

Each year I try to report in greater detail on one particular activity of the University, and I should like at this time to say a special word about the University Committee on Broadcasting. As many of you know, the University of Alberta was a pioneer in radio broadcasting from a University campus, and CKUA (the UA standing for the University of Alberta) was set up by the Department of Extension and the Department of Electrical Engineering and began broadcasting in 1927. The Radio Station played an important part in Extension activities for many years, but due to largely rising costs it was later taken over by Alberta Government Telephones and operated as a public-service, non-commercial station. The University has continued to make use of its facilities in this whole period and today offers a number of programs of music, talks, and discussions, which command a faithful audience of listeners.

More recently the radio committee has been expanded to include television production in co-operation with the CFRN TV and CBXT

television stations, and it has been given the new designation of "The University Committee on Broadcasting". The University is grateful to these two stations for their support and guidance in this co-operative effort, and we hope that future programs will grow in value as a result of past experience.

In conclusion may I refer to the retirement of Dr. A. W. Henry, Professor of Plant Pathology, and Dr. J. Ross Vant, Professor and Head of the Department of Obstetrics and Gynecology, who leave us this year. Professor E. S. Keeping, who retired a year ago as Head of the Department of Mathematics but who has continued as a member of the teaching staff, is leaving for the University of Oklahoma, where he will serve as special consultant and a member of the staff in Statistics. All of these men have left a mark upon the University of Alberta and its graduates, which will endure for a long time to come, and we are grateful for their outstanding contributions to the University's work.

There is in all universities today an increasing movement of staff, and the University of Alberta is deeply involved in such moves. We have lost a number of valued staff members to other institutions and have appointed many new staff members from other institutions. This interchange is of great value in stimulating both teaching and research, and we expect it will continue. At no time in history has there been more intellectual activity on university campuses than at the present time. To all members of the staff, academic and non-academic, who have brought this University to the position of distinction it now holds, I express my sincere thanks.

REPORT OF MR. A. D. CAIRNS

REGISTRAR

Enrolment Statistics

In the University year 1961-62 there were 14,690 students registered in the summer and winter session, the Evening Credit program and in Short Courses, compared to 12,783 in 1960-61. The enrolment of full-time winter-session students (excluding Diploma Nurses) was 8,560 in 1961-62, an increase of almost 15% over the previous year's total of 7,453.

Enrolment of full-time students on the Calgary campus increased by almost 37% between 1960-61 and 1961-62. The corresponding percentage increase on the Edmonton campus was slightly over 11%. Of the University's 8,560 full-time students attending the 1961-62 session, 7,095 attended in Edmonton and 1,465 in Calgary.

In 1961-62, registration of full-time students in the Faculty of Education reached an all-time high of 2,626, up 570 over the previous year. Of these, 2,264 were enrolled in the B. Ed. program and only 362 in the one-year program leading to the Junior Elementary Certificate, which was offered for the last time in 1961-62. Full-time enrolment in the Faculty of Arts and Science rose from 1,781 to 2,183; in Graduate Studies from 557 to 643; in Commerce from 292 to 380. However, registration in the Faculty of Engineering continued to show a slight decline for the third year in a row, falling from 1,142 in 1960-61 to 1,047 in 1961-62.

Since the 1951-52 session, the enrolment of full-time students has increased by over 167%, and the total enrolment in the summer session, winter session and Evening Credit Program by about 164%. Perhaps the most significant growth of all has been in the field of graduate studies. In 1951-52 there were only 2 students in the University working towards the Ph. D. degree: in 1961-62 there were 180.

Registration statistics reveal that, in terms of the area from which this University draws students, it is becoming more and more cosmopolitan. In 1951-52 only 20 students came from outside Canada; in 1961-62 there were 201, an increase of over 900%.

Detailed registration statistics will be found in Appendix VIII of this report.

Convocations

In the University year extending from July 1, 1961 to June 30, 1962, four Convocations were held. These were the Physical and Occupational Therapy Convocation on September 30, 1961, the Fall Convocation on November 18, 1961, the Spring Convocation on May 24, 1962, and the Medical-Dental Convocation on May 29, 1962. In these twelve months 1,569 degrees in course were conferred, bringing the total number since the University's establishment to 23,356.

Examinations

The Registrar's Office scheduled and made all other arrangements for summer session supplementals on July 3, 1961; summer session finals on August 14 and 15, 1961; Medical and Dental supplementals beginning August 21, 1961; regular supplementals beginning September 5, 1961; special supplementals beginning September 30, 1961; January mid-session examinations held from January 8 to 13, 1962; series A final examinations from April 9 to 16, 1962; series B final examinations from April 18 to May 2, 1962; and series C final examinations from May 7 to May 17, 1962.

The two largest series of examinations were the January mid-session examinations and the series B examinations. The former included 286 one-hour, 10 one-and-a-half hour, 109 two-hour and 47 three-hour examinations involving an aggregate of 33,568 "student-examinations". The latter included 624 different examinations (mostly three-hour), involving an aggregate of 34,733 student-examinations.

Electronic Data Processing

Plans were laid during 1961-62 to convert to a system of electronic data processing during the summer session of 1962 and the winter session of 1962-63. A supervisor with training and experience in the use of I. B. M. equipment was engaged at the end of August, 1961, to assist with the development of these plans. In February, 1962 a key-punch and verifier were installed, and in the Spring of 1962 the balance of the necessary equipment.

The initial purpose of converting to electronic data processing was to relieve teaching departments of the necessity of preparing class lists and lists of students on examination returns; and to relieve Faculty offices of the work of transferring marks from the examination returns to their record cards. The Tabulating Office will prepare lists of students on both class lists and examination returns, and will also produce "Faculty Work Sheets" containing the marks of each student in the Faculty.

These will be used by Revisions Committees in place of the Faculty record cards. In addition the Tabulating Office will produce the statements of marks to be sent to students at the end of the session, and it is hoped that we shall be able to post marks on our permanent record cards by using I. B. M. equipment.

Admissions

The work of the Admissions division of the Registrar's Office has been increased very substantially by the large number of requests that we receive from teachers to evaluate their qualification for the purpose of establishing their salary entitlement. During the period July 1, 1961 to June 30, 1962 about 1,200 evaluations of this nature were made.

REPORT OF DEAN C. F. BENTLEY
OF THE
FACULTY OF AGRICULTURE

The past year has been a good one for the Faculty of Agriculture. The two new departments authorized last year have been in active operation for some months. Dr. C. O. Person, who received the first Ph. D. degree awarded by the University of Alberta took up his position as Professor and head of the Department of Genetics October 1, 1961. The establishment of an independent Department of Genetics at the University of Alberta is being watched with keen interest throughout Canada. The fine start now made augers well for exciting and important developments. The head of the new Department of Agricultural Economics, Dr. T. W. Manning, took up his position in February, 1962. The great interest in that field is reflected by the fact that courses in Agriculture Economics already have one of the highest registrations among Faculty of Agriculture students.

Dr. A. W. Henry, the staff member in the Faculty of Agriculture with the longest period of service, retired after the 1961-62 academic year. During his 35 years at the University of Alberta, Dr. Henry built an international reputation as a plant pathologist. Those fine contributions are being continued and extended by the many outstanding graduate students who had the good fortune to work with Dr. Henry. After over thirty-five years of service to the University, Dr. Henry plans to continue his writing and some research at his leisure.

As a replacement for the Press Bulletin, previously issued once a year under the auspices of the Department of Plant Science, the Faculty has commenced publication of The Agriculture Bulletin. Content of the new publication is varied and includes information for prospective students, notes about the off-campus work of the Faculty, lists of publications available, some historical material, high-lights of student activities and information for guidance teachers in high schools. The very large number of letters requesting future copies indicates a most gratifying acceptance of this booklet.

Academic Highlights

The extensively revised curriculum in Agriculture was inaugurated during the 1961-62 academic year. The changes have been welcomed by the students because the new arrangement allows them greatly increased freedom in selecting a program of their own choosing. The departments are pleased with the changes because students can now attain an increased degree of specialization if they wish. The general educational value of

the program in Agriculture has been enhanced by the changes since an additional social science or humanity course, of the student's selection, is now required and because almost all students will take fifty per cent or more of their courses in Arts and Science Departments.

Establishment of the Genetics Department has been accompanied by expanded offerings of genetics courses. There is increased interest in the Honor Genetics program. At the same time space limitations have prevented acceptance of all applicants wishing to do graduate work in Genetics.

Because food processing industries are expanding rapidly a new program has been introduced entitled Food Science. In addition to the basic science courses required of all Agriculture students the Food Science Program includes courses in biochemistry, food chemistry, agricultural microbiology, chemical engineering, nutrition and other aspects of modern food preservation and processing. Some students have already registered for the new program.

These items illustrate the quality and scope of research work in the Faculty of Agriculture. During the past year members of the various departments of the Faculty have published over forty scientific papers dealing with their research activities. While much of the research work is necessarily of a basic nature the practical applications are reflected by the fact that the Canada Department of Agriculture has obtained permission to reprint, in slightly modified forms, for distribution to farmers all over Canada the bulletin Sheep Production in Alberta. Members of the Faculty have contributed over fifty papers at scientific meetings during the year.

Staff

In addition to the two department heads already mentioned there have been some other staff additions. Dr. Wm. Vanden Born, an Alberta graduate with his Ph. D. from the University of Toronto, has joined the Crop Ecology Division of the Plant Science Department. Dr. Karlis Lesins, a specialist in alfalfa, who has been a research associate for several years is now a member of the Genetics Department. A soil microbiologist, Dr. A. W. Moore, has joined the Department of Soil Science.

Dr. J. D. Newton, formerly head of the Department of Soil Science, returned from a second tour for the Food and Agriculture Organization in Indonesia, and was a frequent visitor to the campus. In January 1962, Dr. Vladimir Ignatieff, chief of the Soil Survey and Fertility Section, Food and Agriculture Organization, Rome, Italy, visited the University. Dr. Ignatieff, a former University of Alberta faculty member in the Department

of Soil Science, gave an open lecture about the Food and Agriculture Organization. Other visitors included:

- Dr. C. K. Johns, Director, Dairy Technology Research
Institute, Ottawa;
- Dr. R. P. A. Sims, Director, Food Research Institute,
Ottawa;
- Professor E. H. Garrard, Head, Microbiology Department,
Ontario Agriculture College, Guelph;
- Mr. W. R. Mason, Manager of Research, General Foods
Limited;
- Dr. F. Thatcher, Food & Drugs Directorate, Ottawa.

Space for Agriculture

The Faculty of Agriculture is genuinely handicapped by space shortages. Two departments are obtaining temporary relief by having some laboratories and graduate students in the 'soon-to-be-dismantled' West Laboratory. In another building, basement storage rooms have been made into student laboratories. The new departments of Agricultural Economics and Genetics have inadequate and unsuitable space.

As a consequence of the foregoing, the Faculty of Agriculture has estimated current and future space needs. It is earnestly hoped that an addition to the Agriculture Building, as requested, will be available not later than 1965 in order to relieve the hampering conditions now existing.

Acquisition, by long term lease, from the Alberta Government, of a section of fine land ideally suited to the research requirements of the Faculty has been most welcome. That property, known as the Ellerslie Farm, is in the initial stages of development for use by the Departments of Animal Science, Genetics, Plant Science and Soil Science.

Miscellaneous

There have been a number of other important and notable events during the year. In co-operation with the Alberta Institute of Agrologists and the University Extension Department the first general, professional level, refresher course for agricultural graduates was offered in February 1962. Two areas of interest were dealt with in separate sections, there being approximately thirty-five registered in each of the Animal Science and Soil Science sections. Follow-up questionnaires have ascertained that the registrants were very pleased with the programs and future courses dealing with other areas of agriculture are planned.

Another innovation was a short course with applications of industrial methods to agricultural problems. That course, arranged by the

Department of Agricultural Engineering and the Extension Department had a good registration with personnel from four other provinces in addition to those from Alberta in attendance.

Several members of the staff in Agriculture have received notable indications of high regard for the work they are doing. Three people presented invitation papers or acted as sectional session chairmen at overseas international scientific conferences. Dr. Lesins was awarded a handsome NATO Research Grant to assist his research with alfalfa. Mr. John Englehart, a graduate student, won a \$4,000 fellowship which is offered in open North American competition among all graduate students in the general area of food preservation and food science. Dr. L. W. McElroy, head of the Department of Animal Science, was awarded a Fellowship by the Agricultural Institute of Canada.

In concluding this brief report I wish to express my appreciation of the fine co-operation and assistance which I have received from the Departments and staff, as well as from the senior university officers, during the past year.

REPORT OF DEAN D. E. SMITH
OF THE
FACULTY OF ARTS AND SCIENCE

The past year has been a period of continued growth and accelerated change. The expansion of student enrollment reported a year ago has steadily continued, and there has been a consequent increase in the size of the academic staff. This growth of the Faculty has forced significant changes in its development and organization.

The consideration of the curriculum of the general course (which was begun in 1960-61) has now been completed. During the previous year the report of the Committee on the Curriculum of the General Course had been approved in principle. The proposed new curriculum was considered in detail and approved with minor modifications.

The new curriculum will go into effect in September, 1963. It will require every student to take a compulsory course in English during the first year, three additional courses (one each year) from the Humanities and Social Sciences, and one course each year from the Biological and Physical Sciences. The remaining eight courses will be options chosen by the student. Within this framework a student must study two subjects in some depth: a limit of five courses per subject and nine courses in the two subjects, has been imposed, to ensure that there is not too much specialization in this general course. These regulations may be met in many different ways. The student, with the advice of faculty members, can thus choose a program which will meet his own intellectual interests and vocational plans more readily than under the comparative rigidity of the old system.

The Council of the Faculty was asked to consider whether Ukrainian 30 might be accepted as a matriculation subject. The request came from the Joint Committee to Co-ordinate High School and University Education, through the General Faculty Council. A committee was appointed under the chairmanship of Professor E. J. Hanson, to consider the whole policy of a requirement in matriculation for one or more languages other than English. The Committee concluded that every student admitted to the Faculty should meet matriculation standards in one language which has played a major part in shaping Western culture. It recommended for approval a list of seven such languages: German, Greek, French, Italian, Latin, Spanish and Russian. A student who presents a second language in matriculation might choose either another language from this approved list, or any other language for which facilities of instruction and examination exist. This decision would affect not only Alberta students who might present Ukrainian as one of two languages other than English, but also students from other Provinces who might have qualified in other languages such as Norwegian. Students who have prepared for matriculation in other parts of the Commonwealth may also be given matriculation standing on this basis, in such languages

as Chinese, Erse, Hindi, Swahili or Urdu. In requiring students from Eastern countries of the Commonwealth to matriculate in one Western language from the approved list, Council endorsed the view of the Committee that such students require a comprehensive understanding of Western culture before they obtain a degree from a Western university.

Several innovations approved by the Council of the Faculty are noteworthy. For the first time an Anthropologist was appointed a full-time member of the staff of this Faculty; and several junior and senior courses in this subject were approved by Council. These include a general introduction to Archaeology, which will complement the course in Classical Archaeology which has been offered for many years. An interdepartmental committee to supervise the Slavonic and Soviet Studies program was formally appointed by the Council. This program has been operating for several years under the general direction of an informal committee made up of representatives of the departments concerned. Honors students in Economics, History, Political Science or Russian may be accepted in this program. In addition to basic qualification in the principal subjects selected, they follow an integrated program of courses in the economic and historical development and political organization of Russia, both before and after the Soviet regime. A minimum knowledge of the Russian language is required of students who are specializing in another discipline.

Council also approved an Honors program and a pattern of the general course in Microbiology, so that students in this Faculty might obtain a grounding in the non-medical aspects of Bacteriology. This development is parallel with the practice followed over many years of providing Honors programs in subjects such as Biochemistry, Entomology, Genetics and Physiology for students in this Faculty, even though the departments concerned are established in other Faculties of the University.

The most significant result of the growth of the Faculty was a decision, approved by the Board of Governors during the last year, to establish two separate Faculties of Arts and of Science. On the Edmonton campus, this Faculty comprised more than 1700 full-time students; the addition of part-time and special students produced a total of over 2,000 students whose programs are supervised in this Faculty. There were well over 200 members of the academic staff (including those who were appointed for only the one session). The Faculty was sub-divided into sixteen departments and one school. As a result of these facts, the work of the Council of the Faculty, and of the Dean's office, became not only unduly voluminous, but also very complex.

It was decided that the most practicable solution to these problems was to divide the Faculty. Dr. H. S. Armstrong, who has been Dean of Arts and Science at McMaster University, accepted appointment as Dean of Science, effective 1st July, 1962. The present Dean of Arts and Science will retain the position of Dean of Arts. The Council of the Faculty appoin-

ted a committee, under the chairmanship of Professor M. Wyman, to consider the organization of separate Councils of the two Faculties, and methods of liaison between them on curriculum and other matters. It is expected that this separation will become complete by the summer of 1963.

Some years ago, the Council of this Faculty recorded its approval of the development of facilities in Arts and Science on the Calgary campus, and its conviction that the Calgary section of this Faculty should achieve autonomy as soon as possible. A great stride toward the realization of this goal was made in the appointment of Dr. M. H. Scargill as Dean of Arts and Science at the University of Alberta, Calgary, effective 1st July, 1962. The process recommended by the Council of this Faculty will doubtless become complete with the creation of a separate Council of the Faculty of Arts and Science in Calgary, in the near future.

Similar growth resulted in the creation of separate Departments of Philosophy and of Sociology. When the first full-time Sociologist was appointed in September, 1956, he was placed in the Department of Philosophy and Psychology. When a separate Department of Psychology was formed, Sociologists remained with Philosophers in the original department. Increasing numbers of staff and students, and increasing complexity of administration, have now led to the separation of these disciplines into individual departments.

The growth of the Faculty has also created urgent problems of accommodation. The Council of the Faculty therefore appointed an Advisory Committee on Space Problems, under the chairmanship of Professor E. J. Hanson. The function of the Committee was to study space requirements and advise the Dean on the need for new buildings. With the approval of the Campus Planning Committee, plans are going forward for two new buildings: a Biological Science Building, to house the Departments of Botany, Psychology and Zoology, and a Social Science Building, to house the Departments of Geography, History, Philosophy, Political Economy and Sociology. Preliminary planning committees have been established for each building under the chairmanship of Professor D. M. Ross, for the Biological Science Building, and Professor W. C. Wonders for the Social Science Building. If present plans are fulfilled, these buildings should be occupied by the departments concerned before the opening of the 1965-66 session.

The expansion of facilities for teaching and research in the various departments continues satisfactorily; the fruits of these activities are reported elsewhere in this report. A few of the more outstanding developments deserve special mention:

1. Professor R. B. Sandin of the Department of Chemistry received the Outstanding Teacher Award of the Chemical Institute of Canada. Professor R. U. Lemieux, of the same Department, received the Parisseau

Medal awarded by the Association Canadienne Francaise pour l'Avancement des Sciences.

2. Dr. J. Szövérfy, of the Department of Modern Languages, was awarded a Guggenheim Fellowship for the summer of 1962, for his work in medieval lyrics and hymnology.

3. The German Division of the Department of Modern Languages and the University Library have been privileged to obtain photocopies of a private collection of manuscripts and other papers of Georg Kaiser (a modern German dramatist and novelist). Arrangements were also made for co-operative use of additional Kaiser papers housed in the Kaiser archives of the Academy of Arts in Berlin.

4. Professor E. J. Hanson, Head of the Department of Political Economy, was appointed NATO exchange professor at the Norwegian School of Economics and Business Administration in Bergen, Norway, from January to April, 1962.

REPORT OF DEAN HU HARRIES
OF THE
FACULTY OF COMMERCE

The Faculty of Commerce continued to grow at a rapid rate during the past year. There were 410 full-time students which was an increase of exactly 100 over the full-time registration of the previous year. It is anticipated that student numbers will double by 1965.

Student Business Day was held in November and proved to be an outstanding success. This Day which is organized for the purpose of bringing the Business Community and students in the Faculty in closer touch with one another seems to be meeting a common need.

With the help of the Faculty, a Commerce Students Honours Society was organized. This Society, the membership of which is restricted to senior students who have demonstrated their academic ability held six meetings. At each of these meetings a speaker from the Business Community delivered a paper and led a discussion.

An industrial seminar whose membership was restricted to Faculty members and senior Business personnel was also commenced in 1962. The purpose of this seminar is to bring together leaders of the Business Community and University Teachers to discuss commercial problems of concern to both. We were delighted to have Mr. Arnold Platt, a distinguished Albertan and member of the Royal Commission on Transportation, to deliver the first seminar paper.

A number of field trips were made during the year by senior students and the Edmonton Chamber of Commerce was again host to the Graduating class at an enjoyable banquet.

The number and variety of business courses taught in the Faculty followed the planned expansion established two years ago, with the result that the program available to undergraduates came closer to meeting the standards prescribed at the time General Faculty Council and the Board of Governors authorized a change from a three year to a four year program.

Members of the Faculty participated to an extent never before reached in Extension activities. Particular mention must be made of the obligations assumed by the Faculty to staff a new three year Extension program in Business Education for middle management. This program is well launched and should be one of the most interesting and challenging ever undertaken. The first certificate course in Personnel

was also completed this year and a new three year program is presently being organized.

Staff changes brought new faces to the Faculty and we must record with regret the leaving of the senior Professor of Accounting, J. D. Campbell.

Dr. G. R. Winter, Messrs. G. A. Feltham and M. W. Vance all joined the staff in the fall of 1961.

REPORT OF DEAN H. R. MacLEAN
OF THE
FACULTY OF DENTISTRY

After 40 years of little change, the picture of dental education in western Canada is suddenly undergoing a period of growth. From 1927 until 1958 Alberta was the only Canadian university west of Toronto with a Faculty of Dentistry. Four years ago, a new dental school was opened at the University of Manitoba. The first class graduated in June of this year. British Columbia is starting a dental school and will accept its first applicants in September 1963.

In Alberta, we have just finished the first full year in our new area. The physical facilities have been increased about five times that previously existing. This has permitted us to double our registration of dental students and, at the same time, start a new program in dental hygiene to a class of 19 dental auxiliaries. This group has now completed the first year of a two-year program.

The registration is as follows:

First Year	50
Second Year	44
Third Year	33
Fourth Year	30
Dental Hygenists (auxiliaries)	19
	176

We are now able to accept 55 applicants to the dental program and 20 to 25 to the dental auxiliary hygiene course.

With the objective of having an adequate number of highly qualified applicants to these two areas, the Alberta Dental Association administers an active recruitment program. Whether it is due to this activity or the generally increased interest in dental health, we have noted a marked improvement in the number of applications.

There are now 176 students registered in the faculty. Two graduates from outside this continent have completed their programs as special students and we expect to offer special training to five foreign graduates starting in September.

This larger student body means, of course, an increase in both the academic and professional staff and, finally, a considerable increase

in overall costs. Dr. R. V. Blackmore, who was formerly on our staff, is returning after an absence of four years from the University of Rochester where he obtained a Ph.D. degree in Bacteriology. He will be the administrative officer of the research department. Dr. G. B. Davidson, from the University of Washington in Seattle joins the restorative dentistry section this summer. Dr. K. A. Murchy will be in England for one year of sabbatical leave to do research in oral pathology.

The Canadian Dental Association Council on Education makes a periodic survey of all the Canadian dental schools. Presently, the six Canadian schools are approved by both the Canadian Dental Association and the American Dental Association.

Although the program of courses has undergone revision from year to year, we still feel improvement could be made. The Faculty of Dentistry has just completed a three-day Workshop on Curriculum. Dr. William R. Mann, University of Michigan, an outstanding authority on dental education was brought in as consultant. The curriculum was studied in detail and many alterations and improvements considered. A Committee on Dental Education, which will recommend changes and modifications to be implemented within the next few years, has been formed. As a result of this critical survey, it is our intention to correct deficiencies and to develop material that we hope will be of greater value to the dental graduate.

The junior and senior students render an appreciable amount of dental service to the people of this province in the Dental Clinic and at the University of Alberta Hospital. There were 1625 adults and 510 children treated at the Dental Clinic involving 4960 operations and 1416 dental operations were recorded at the University Hospital. One hundred and ninety patients were treated in the Dental Hygiene Clinic.

The closed circuit television studio is the first complete installation on the campus and is used for at least one program per day. This area has been viewed with interest by the chief administrators at the university and several members of other faculties. It is proving to be a valuable addition as a teaching medium.

Five short postgraduate courses have been offered during the last session. These have been attended by 69 participants.

Staff members have had 15 scientific papers published and have presented 22 professional papers throughout Canada and the United States.

In the report of the faculty to the Royal Commission on Health Services, it was stated that if British Columbia and Saskatchewan each provided their own dental school, Alberta could supply enough trained personnel to care for its own needs for the next ten to fifteen years.

Financial support for graduates who plan to become full-time teachers and for those who are already teaching is one of the outstanding needs in dental education in Canada.

The dental auxiliary hygiene program is progressing satisfactorily. The first class is expected to graduate next year. They are presently taking field training in assigned health units. All students now in the program have accepted the provincial Department of Health Bursary. We are making every effort to continue to maintain our commitment to the government in the training of this auxiliary group. In addition, it is felt a further obligation to the profession of Alberta and western Canada should be considered, namely, the training of dental hygienists for the private practitioner. Major attention is now directed toward supplying hygiene service to the health units and this policy will be maintained until their requests are adequately met.

In the future it will be necessary to develop and increase our research department. With the addition of new staff a graduate program must be one of our next considerations. We therefore recommend that plans relative to space and organization for this important area of dental education be considered this summer.

Scientific Papers

<u>Department</u>	<u>Papers Published</u>	<u>Papers(Scientific Presentations)</u>
Diagnosis		1
Pedodontics	4	5
Fluoridation		5
Dental Public Health	2	
Dental Auxiliary Service		1
Oral Pathology	5	5
Dental Anatomy	2	2
Fixed Partial Dentures		3

The following research projects are in progress:

1. Fluid intake and climatic conditions related to fluoridation -- Dr. McPhail; granting body -- Department of National Health and Welfare.

2. A survey of the incidence of malocclusion -- Dr. Castaldi; granting body -- Department of National Health and Welfare.
3. Public attitudes about dental health and fluoridation -- Dr. Castaldi; granting body -- Department of National Health and Welfare.
4. Enamel hypoplasia -- Dr. McMurchy; granting body -- National Research Council.
5. Dietary phosphorus and dental caries -- Dr. Tuba; granting body -- National Research Council.
6. A study of cementum related to aging and hibernating animals -- Dr. McMurchy; granting body -- National Research Council.
7. Microradiographic studies of mineralization patterns -- Dr. McMurchy; granting body -- National Research Council.
8. A study of amalgam alloys -- Dr. Yuodelis; granting body -- National Research Council.

REPORT OF DEAN H. T. COUTTS
OF THE
FACULTY OF EDUCATION

I have the honor to present this report of the activities of the Faculty of Education for 1961-62. Additional information concerning the Faculty of Education is included in the report of Dr. J. W. Gilles, Director of the Summer Session and the Evening Credit Program.

Registration

During the year, the Faculty maintained active records for 2,877 regular undergraduates, 1,225 Evening Credit program students, 2,802 Summer Session students, and 37 full-time graduate students.

Degrees Conferred

The following degrees were conferred during the year:

	<u>October 1961</u>	<u>May 1962</u>	<u>Total</u>
B. Ed.	272 (236)	152 (80)	424 (316)
B. Ed. in Industrial Arts	1 (4)	3 (2)	4 (6)
B. Ed. in Physical Education	0 (1)	1 (0)	1 (1)
	273 (241)	156 (82)	429 (323)

Recommendation for Certification

In addition to students recommended for the Junior E Certificate, the following are the numbers recommended for the Standard E, Standard S, and Professional Certificates:

	<u>October 1961</u>	<u>May 1962</u>	<u>Total</u>
Standard E Certificate	93 (95)	136 (112)	229 (207)
Standard S Certificate	150 (152)	354 (278)	504 (430)
Professional Certificate	275 (285)	392 (185)	667 (470)
	518 (532)	882 (575)	1,400 (1,107)

* The figures in parentheses represent the totals in the previous year, thus indicating the increase in the past year.

Faculty Organization

In September, 1962, a Division of Educational Foundations was established with B. E. Walker as Chairman and with a staff consisting of B. Y. Card, S. A. Earl, M. R. Lupul and K. H. Thomson.

In response to a need created by substantial federal government assistance to vocational education, the General Faculty Council at its March meeting gave approval in principle to establishing in the Faculty of Education of a Division of Industrial and Vocational Education and of a program leading to a Bachelor of Education in Vocational Education degree.

Following the appointment of a Dean of the Faculty of Education, Calgary, a decision was made to establish a Faculty of Education Council in Calgary in September, 1962. It was also decided to set up a joint committee to coordinate the activities of the Faculty of Education Councils in Edmonton and Calgary.

Curriculum

Following a decision by the Government of Alberta to require a minimum of two years of teacher education beyond matriculation before initial certification, the University withdrew the Junior Elementary Certificate program effective September 1, 1962.

Plans were developed to institute a common first-year program for students enrolling for the Bachelor of Education degree. The purpose of this change is to make it possible for students to delay final commitment to the elementary or secondary route until the beginning of the second year of the program.

The Bachelor of Education in Industrial Arts program, offered only in Calgary, was reorganized to make possible the best use of space and equipment at both the Southern Alberta Institute of Technology and the University of Alberta, Calgary. The result is a much improved weighting of industrial arts, academic and professional courses in each year of the program.

A tentative program has been developed for the proposed Bachelor of Education in Vocational Education degree.

Staff

On August 31, 1961, Dr. A. L. Doucette was forced through ill-health to resign from his position as Professor and Associate Dean of the Faculty of Education, Calgary. During the 1961-62 session, Dr. T. G.

Finn performed the administrative duties in Calgary on behalf of the Dean.

Dr. H. S. Baker, Chairman of the Division of Secondary Education, Faculty of Education, Edmonton, has been named Dean of the Faculty of Education, Calgary, effective July 1, 1962.

Dr. T. G. Finn was appointed Director of the Summer Session and Evening Credit Programs, University of Alberta, Calgary, effective April 1, 1962.

Dr. W. D. McDougall retired as Chairman, Division of Elementary Education, Edmonton, on August 31, 1962. He was succeeded by Dr. W. H. Worth.

Dr. L. W. Downey was appointed Chairman of the Division of Secondary Education, Faculty of Education, Edmonton, effective July 1, 1962.

Dr. B. Y. Card and Associate Professor S. A. Lindstedt rejoined the staff in September, 1961, the former after a year centred in California, the latter after a year of doctoral study at the University of Wisconsin. Assistant Professor J. E. Cheal remained at the University of Chicago and Assistant Professor D. H. Crawford at Syracuse University, each for a further year of doctoral study. In March, 1962, Mr. Crawford resigned from our staff to accept a position at Queen's University, Kingston, Ontario.

During the 1962-63 session Dr. J. S. Woodsworth and Associate Professor C. Hampson were on sabbatical leave, Assistant Professor S. Norris on leave-of-absence.

The following joined our staff in September, 1961: Associate Professors: Gerald L. Berry (Secondary Education), Dr. Seymour Trieger (Elementary Education); Assistant Professors: E. E. Andrews (Elementary Education), Dr. J. E. Bowen (Educational Foundations, Calgary), Dr. A. F. Brown (Educational Administration, Calgary), Dr. W. B. Elley (Educational Psychology), Dr. F. Enns (Educational Administration), Dr. S. G. Finn (Music Education, Calgary), B. P. Frost (Educational Psychology, Calgary), J. M. Higgins (Elementary Education), Dr. S. Hunka (Educational Psychology), H. M. Kiyooka (Art Education, Calgary), L. L. Wilson (Speech Education).

Sessional assistance was given during the year by Dr. John Macdonald, Professor Emeritus (Educational Foundations), Dr. George Howie, Senior Lecturer in Education, University of Sydney (Educational Foundations), Mrs. Ann Dockrell (Educational Psychology), D. F. MacMillan (Social Studies, Calgary), Roger Motut, Associate Professor of Modern Languages (Secondary Education), M. E. J. Orme (Educational

Psychology, Calgary), R. S. Patterson (Elementary Education), Miss Helen Pierce (Educational Foundations), S. Radomsky (Secondary Education), Miss J. Robertson (Elementary Education), Mrs. M. Silcox (Business Education), Mr. J. E. Simpson (Student Teaching), Mr. L. Tolman (Science Education, Calgary), and by a number of graduate teaching assistants.

Dr. L. W. Downey, Dr. J. G. Woodworth and Dr. W. H. Worth have been promoted to the rank of professor, R. N. Anderson, Dr. F. E. Churchley, R. J. C. Harper, Miss E. M. King, Dr. John Macdonald, S. Norris, and Dr. J. A. Stewart to the rank of associate professor.

The following staff members will be on leave during 1962-63: Miss J. D. Dey, Miss H. M. Diemert, E. M. Dodd, C. Hampson, J. M. Higgins, Miss E. M. King, and Dr. R. S. MacArthur.

In December the University of Minnesota conferred on Miss Geraldine Farmer the degree of Doctor of Philosophy.

Professional Activities

Activities of local, provincial, regional, national and international significance continue to engage members of staff who are called upon to give professional service in a variety of ways. Some indication of this service is apparent in the reports of the Divisional Chairmen and of the Dean's representative in the Faculty of Education, Calgary.

Graduate Study, Research and Publication

All divisions of the Faculty were serving graduate students through the regular and the summer sessions. Both staff and graduate students were active in research and publication during the year. Dr. D. B. Black served again as Director of Research for the Alberta Advisory Committee on Educational Research and the Faculty Research Committee. Dr. H. E. Smith was the continuing editor of The Alberta Journal of Educational Research and the Research Newsletter.

DIVISIONAL and CALGARY REPORTS

The reports of the five Divisions of the Faculty of Education and of Dr. T. G. Finn for the Faculty of Education in Calgary give fuller information concerning activities in 1961-62. The Dean again expresses appreciation of the loyalty and cooperation of the academic and clerical staff in Calgary and Edmonton, of the staff of the demonstration school, and of all others who have contributed in any way to the operation of the Faculty during the year.

(a) Division of Educational Administration (A. W. Reeves, Chairman)

The Division's graduate program continues to attract competent students from across Canada. In the winter session twenty-seven registered and in the summer session an additional forty-seven. In 1961, five were awarded the doctoral and eleven the M. Ed. degree.

As in former years staff numbers took part in numerous local, provincial, and national conferences. Again the Division assumed responsibility for the Canadian Education Short Course for Superintendents and for the Alberta Leadership Course for Principals. The Banff Regional Conference for urban school officials in Western Canada has now become a permanent feature of the Division's field program. This year the attendance included more than seventy superintendents and school board members representing districts from Winnipeg to Vancouver.

Each year the Division undertakes several projects that enable staff and students to study problems important to practising administrators. The Division, at the request of the school committee, made an appraisal of the administrative and supervisory organization of the Sturgeon County.

Last year the W. K. Kellogg Foundation of Battle Creek, Michigan, extended its financial assistance to the Division for an additional five years. As a result of this assistance the Division introduced two new features to its program:

- (1) The publication of a new journal, The Canadian Administrator, which carried articles of particular relevance to superintendents, principals, supervisors and other administrators in the Canadian educational system. In March, 1962, the circulation was 816 copies.
- (2) The establishment of a "bursary recovery" plan which enables the Division to select and prepare young educators for positions of leadership in Alberta schools. Financial assistance is shared by local school boards, the Department of Education, and the W. K. Kellogg Foundation.

The Division and the University Council for Educational Administration sponsored a joint conference on The Social Sciences and Administration at the Banff School of Fine Arts.

(b) Division of Educational Psychology (G. M. Dunlop, Chairman)

The Division experimented with instructional procedures which compared the effectiveness of large lecture and lecture-tutorial groupings.

Graduate work continued to be a major responsibility of the

Division which during the winter served five Ph. D. and three M. Ed. students. One candidate received the Ph. D. and three the M. Ed. at the Fall Convocation. One will receive the M. Ed. in the Spring Convocation. Some twenty-five students are pursuing the M. Ed. program through the summer session route.

The members of the Division participated extensively in national, provincial, and local committees. In addition, the Division carried a large load of University and Faculty Committee responsibilities.

Research Projects of the Division included the following:

- Anderson, C. C. and Black, D. B. Project TEASEL.
- Anderson, C. C. Authoritarianism in the Junior High and High School.
- Ayers, J. D. Effectiveness of Instruction of Descriptive Statistics by Teaching Machines.
- Ayers, J. D. and Staff. An Experimental Evaluation of Tutorial, Large Lecture Group and Small Lecture Group in Freshman Educational Psychology.
- Black, D. B. Carnegie Corporation-University of Alberta Joint Project on Educational Research. An evaluation after five years.
- Black, D. B. Project Antipodes.
- Christensen, C. M. Personality Correlates of Design and Texture Preferences.
- Christensen, C. M. Design and Texture Preference Study.
- Dockrell, W. B. Edmonton Standardization of the Wechsler Intelligence Scale for Children.
- Dockrell, W. B. Streaming of the Junior High School.
- Harper, R. J. C. The Role of Stimulus Affect on Concept Attainment and Strategy.
- Hunka, S. Correlates of Learning Behavior under Different Modes of Information Feedback.
- Elley, W. B. Education for International Understanding.
- Macdonald, J. Cognitive and Personality Change.
- Macdonald, J. and Dockrell, W. B. Edmonton Grouping Study.
- MacArthur R. S. Assessing General Intellectual Ability of a Fort Simpson Sample of Indian Pupils.
- MacArthur, R. S. Norming Ability and Arithmetic Tests in Mackenzie District.

(c) Division of Elementary Education (W. H. Worth, Chairman)

The Division has continued to expand its program at both the undergraduate and graduate levels. Courses were developed for students from other faculties who entered Elementary Education. Emphasis has been placed upon the teaching of speech and speech improvement. The graduate program included six full-time winter session students. Late

afternoon and Saturday morning classes permit practising teachers and superintendents to take senior work.

The reading center again served as the focal point for graduate studies in the Division. Diagnostic and remedial work involved some two hundred reading disability cases. A major project was a survey of the reading program of the Red Deer School Division.

Staff involvement in research and publication continues to increase in spite of commitments throughout the Province in providing in-service programs for teachers. Staff members carry a heavy responsibility but the Division considers that this service is an essential, as well as an integral part of its program. Staff members continue to participate in conferences from the national to the local level.

(d) Division of Secondary Education (H. S. Baker, Chairman)

The Division's main responsibility continues to be the provision of courses in secondary school curriculum and instruction in the following fields: English, foreign languages, social sciences, mathematics, biological sciences, physical sciences, art, music, drama, household economics, business education, and physical education. The staff assumes particular responsibility for the supervision of student teachers in these fields. It also attempts the supervision of graduate students during the summer session when large numbers enrol not only for course work but also for work on their theses.

With the emergence of large high schools and the consequent decline of small high schools, the Division has given considerable thought to the reorganization of its program to permit study in greater depth. In this planning the Division has sought the advice of colleagues in relevant departments in the Faculty of Arts and Science, in the specialist councils of the Alberta Teachers' Association, and in the Alberta Department of Education.

During the year, staff members have continued their participation in national, provincial and local conferences. Many commitments are met in public service and in in-service education for teachers. Staff are making a real contribution to education in the Province through research and participation in the specialist councils for teachers.

(e) Division of Educational Foundations (B. E. Walker, Chairman)

The major fields of interest of this Division are history of education, philosophy of education, sociology of education, and comparative education. The Division works with other departments in related disciplines.

During the 1961-62 session the Division was fortunate in obtaining the services of two guest instructors: Dr. John Macdonald (former Dean of Arts and Science) and Dr. George Howie, Senior Lecturer on leave from the University of Sydney, Australia.

Dr. B. Y. Card returned to the campus after a year's leave during which he studied relations between sociology and education in thirty-five centers across the United States. Mr. M. R. Lupul is nearing the completion of his research project concerning church-state relations in education in the old North-West Territories.

There was encouraging progress during the year in graduate work. Twenty-one students are now working on graduate programs in the Division, mostly by the summer session route.

(f) The Faculty of Education, Calgary (T. G. Finn)

Most of the functions performed by the different Divisions of the Faculty of Education in Edmonton must also be performed at the University of Alberta, Calgary. Calgary does not offer instruction in household economics, business education, or drama. However, it does offer the program in industrial arts in cooperation with the Southern Alberta Institute of Technology. This arrangement makes possible the offering of the Bachelor of Education in Industrial Arts.

During the 1961-62 term the Bachelor of Education in Industrial Arts program was rearranged so that when the program is completely instituted all shop courses will be held in the afternoons. This will mean that the fourth year of the Bachelor of Education in Industrial Arts program will have to be taken in Calgary until such time as industrial arts is also offered at the Faculty of Education in Edmonton using the facilities of the Northern Alberta Institute of Technology.

Calgary has no graduate program, but staff members serve on thesis committees of students living in southern Alberta.

Parallel courses are offered in Calgary and Edmonton. The trend appears to be that Calgary instructors set and mark their own examinations.

Staff in Calgary, as in Edmonton, participated generously in the usual public service commitments of the Faculty.

Dr. Churchley, Professor Doolittle, and Dr. Stanley Finn took the Choral Society on a spring tour of southern Alberta towns. The above three staff members formed a trio to interest Calgary high schools in music. They are also engaged as examiners for the Western Board of Music.

Members participated in Department of Education curriculum committees.

During the year approval was given for the planning of the University Demonstration School to be constructed in University Heights, Calgary. A date of September 1, 1963, has been set for this building.

In April, 1962, Mr. Eric Dodd received a Canada Council grant to pursue studies towards a doctorate in Fine Arts at the University of Toronto.

(g) Extension Work

The Faculty of Education has a close relationship to the Department of Education. Staff members sit on a variety of Department of Education committees, assuming considerable responsibility in curriculum matters. At many levels of Departmental affairs, Education staff are involved. Excellent cooperation has been maintained, and the Faculty has gained much from the association.

Staff members have a continuing responsibility with respect to student teaching in the public and separate schools of the area adjacent to the University. A plan for internship for beginning teachers has been formulated in cooperation with the participating school boards, staff and Department of Education.

Members of staff assume many duties in bringing the Faculty to the people of the Province through short courses, conferences, workshops, speeches, and the like. Staff members willingly participate in these affairs because they feel that the particular relationship of the Faculty to the schools of Alberta requires that these connections be maintained for the good of the children in the schools.

REPORT OF DEAN G. W. GOVIER
OF THE
FACULTY OF ENGINEERING

The year 1961-62 was marked by the completion and occupancy of a major extension to the main Engineering Building on the Edmonton campus. The new extension was occupied in the summer of 1961 and provides extensive new facilities for the Departments of Electrical Engineering and Mechanical Engineering. New Dean's Offices and a Faculty Conference Room are also provided.

Overall registration in the undergraduate programs declined from 1,155 in 1960-61 to 1,076 in 1961-62. This was due largely to a drop in first year registrations. Registrations in graduate work increased over last year from 65 to 90.

ACADEMIC PROGRAM

Curriculum

The First and Second Year curricula were modified appreciably to strengthen the basic science content of the first two years and to provide a common two-year program for all undergraduate students in engineering to become effective in September 1962. A short course on computer calculations was given to all fourth year students in September 1961 prior to the start of regular classes. This was well received. For certain students it will be offered again, others will take a new half-year course offered by the Computing Center.

Significant changes in the curriculum for Petroleum Engineering were approved for the 1962-63 session. The program leading to a B.Sc. in Petroleum Engineering is to be discontinued after the 1962-63 session. Certain undergraduate courses in Petroleum Engineering will still be made available as technical electives for senior students in other branches of engineering. A full program of courses and research leading to an M.Sc. in Petroleum Engineering is being continued.

New courses in process dynamics were approved for introduction to the Fourth Year curriculum in Chemical Engineering.

At the M.Sc. level new courses are planned in the fields of thermodynamics, heat transfer, combustion, applied mathematics and applied reaction kinetics. At the Ph.D. level new programs in applied mechanics and structures are being offered. The first Ph.D. in Engineering was awarded in Chemical Engineering to Mr. R. A. Ritter in the Fall of 1961.

Research

Research is continuing in all departments by the staff of the Faculty as part of M.Sc. and Ph.D. programs and with the aid of Research Assistants.

In Chemical Engineering research has been continued in fluid mechanics, applied rheology, phase behavior of hydrocarbons and chemical reaction rates. Petroleum Engineering research has included sweep efficiency studies, flow in porous media, miscible fluid displacement, and pore size distribution studies.

The Civil Engineering Department has work underway in the fields of soil mechanics, highway engineering, hydraulics, concrete and structural design. In Electrical Engineering research is being carried out in the analog computer field and in the design of computer components. Work in Mechanical Engineering includes studies of thin plates, thick cylinders, extrusion and piercing, heat transfer, gas turbine design, fatigue properties and behaviour of structures.

In the field of Metallurgy work is continuing on zinc-aluminum and other alloys, amalgams, corrosion, infrared spectroscopic studies, mineral solubility, X-ray diffraction studies, the mechanism of hardening, solidification mechanisms and the performance of the hydroclone. Strata stress studies are being carried out in Mining Engineering.

On the Calgary campus limited research is underway in metal fatigue, rheology and bio-electronics.

The research activities of the individual staff members in the various departments are more fully indicated in Table I.

ACADEMIC STAFF

Appointments, Resignations, Leaves

Several new appointments to the staff were made during the year. Mr. K. Aziz was appointed Assistant Professor of Petroleum Engineering and Mr. F. D. Otto Assistant Professor of Chemical Engineering. Three Assistant Professors were added to the staff of Civil Engineering, Mr. J. B. Nuttall and Mr. S. Thomson in Edmonton and Dr. H. A. R. DePaiva in Calgary. In the Department of Electrical Engineering Messrs. R. A. Stein and W. Sinnema were appointed Assistant Professors.

Mr. P. M. Dranchuk was on his second consecutive year of leave of absence at Stanford University completing further graduate study in

Petroleum Engineering. Mr. K. Aziz has been granted a leave of absence for the 1962-63 session for graduate work leading to a Ph. D. in Chemical Engineering at the University of California. In the Civil Engineering Department Assistant Professor S. H. Simmonds continued his leave to pursue advanced study at the University of Illinois and Assistant Professor E. W. Brooker was on the first year of a two-year leave to study at the University of Illinois.

Professor S. R. Sinclair, Head of the Department of Civil Engineering, was granted a sabbatical leave for the period of the 1962-63 session to study work in the field of soil mechanics in Norway and England. Professor J. Longworth has been appointed Acting Head of the Department of Civil Engineering during Professor Sinclair's absence.

From the Calgary campus Messrs. A. Doige and P. Glockner have been granted Assisted Leaves for graduate work at Purdue University and the University of Michigan, respectively.

Two resignations were received, those of Associate Professor R. T. Hart of Petroleum Engineering and Assistant Professor of Electrical Engineering K. G. Clarke.

The regular full-time staff of the Faculty of Engineering during the 1961-62 academic year numbered 61* including 10 in the Department of Chemical and Petroleum Engineering; 25 in the Department of Civil Engineering (3 of whom are at Calgary); 9 in the Department of Electrical Engineering; 12 in the Department of Mechanical Engineering (3 of whom are at Calgary); and 5 in the Department of Mining and Metallurgy. Six sessional instructors, and 39 part-time graduate teaching assistants aided in the teaching duties of the Faculty.

Representations at Professional Conferences

Representatives of all departments in the Faculty attended the usual number of technical, scientific and professional conferences during the year. Illustrative of these are the following which were attended by various members of staff in the Department of Mining and Metallurgy:

- (a) The Gordon Conference attended by Dr. J. Leja.
- (b) International Union of Pure and Applied Chemistry attended by Dr. J. Leja.

* Including three on leave of absence

- (c) Materials Science Conference of the American Society for Metals and American Institute of Mining and Metallurgical Engineering attended by Professor E. O. Lilge.
- (d) Fourth Symposium on Rock Mechanics attended by Professor T. H. Patching.
- (e) Fiftieth Anniversary Conference on Flotation, American Institute of Mining and Metallurgical Engineering, attended by Professor E. O. Lilge.
- (f) Canadian Metal Physics Conference attended by Dr. W. V. Youdelis.
- (g) International Association of Dental Research attended by Dr. W. V. Youdelis.
- (h) American Mining Congress attended by Professor E. O. Lilge.
- (i) Metals Congress attended by Dr. J. Gordon Parr.
- (j) Canadian Institute of Mining and Metallurgy Annual Meeting attended by Dr. J. Gordon Parr.

Extension and Professional Activities

Members of the Faculty staff have participated in the extension work of the University and have engaged in professional work. The Department of Chemical and Petroleum Engineering has maintained contact with local industries such as Pan American Petroleum Corporation, Canadian Chemical Company, Trans Mountain Pipelines and Cities Service (Athabasca) Limited. Service to industry and individuals has been given by the Department of Mechanical Engineering in connection with furnace ratings, insulation ratings, and material testing. Work in cooperation with the Research Council of Alberta and the Provincial Department of Highways under the Cooperative Highway Research program continued in the Civil Engineering Department. Several of the staff in Electrical Engineering taught in an Extension Department course on transistors, each dealing with certain aspects of the subject.

A fifteen-day short course in Petroleum Reservoir Engineering during May of 1962 was presented by staff of the Department of Chemical and Petroleum Engineering. The course was attended by eighteen people representing many phases of the petroleum industry.

Dr. J. Duby of the Department of Mechanical Engineering was active in the field of computer technology and gave a course to the staff of the Oil and Gas Conservation Board at Calgary using a manual he had prepared

on "Act III Compiler System for the L. G. P. -30 Computer".

Associate Dean Gads gave a great many talks to varied groups of business and professional people on his recent trip to Europe and Russia. Talks were also given to various organizations by many members of staff throughout the year. A number participated in the radio program "University of Alberta on the Air" and on the television program "Project 13".

Special Honors

Dr. D. B. Robinson, Head of the Department of Chemical and Petroleum Engineering, arranged the Chemical Engineering program for the Annual Meeting of the Chemical Institute of Canada held in Edmonton in May 1962 and was elected a Fellow of the Institute. Dr. I. G. Dalla Lana of this department was elected Chairman of the local section of the Chemical Engineering Division of the Chemical Institute.

Dean G. W. Govier served as Chairman of the Chemical Engineering Division of the Engineering Institute of Canada during the past year and was reappointed for the 1962-63 term. Dr. Govier and Dr. D. L. Flock, Associate Professor of Petroleum Engineering, are representatives on the Canadian National Committee of the Sixth World Petroleum Congress to be held in Germany in June 1963.

Dr. G. Ford, Head of the Department of Mechanical Engineering, was elected Vice-President of the Association of Professional Engineers of Alberta. He was also Honorary Editor of the "International Journal of Mechanical Sciences".

In the Department of Mining and Metallurgy Dr. J. Leja was elected Chairman of the International Committee on Hydrometallurgy of the American Institute of Mining and Metallurgical Engineering, Dr. J. G. Parr was elected Vice-Chairman of the Metallurgy Division of the Canadian Institute of Mining and Metallurgy, and Dr. W. V. Youdelis was elected Chairman of the Education Committee of the American Society for Metals. In recognition of their contributions to metallurgy, Messrs, J. G. Parr and E. O. Lilge of this Department were made honorary members of Alpha Sigma Mu.

Associate Dean Gads was elected an Honorary Member of the Alberta Land Surveyors Association.

Distinguished Visitors

Dr. E. I. Organick, Director of the Computing Center of the University of Houston gave a short course on "Programming Engineering Problems for Computer Solution" to Faculty staff members in September of 1961.

Two seminars were given by visitors to the Chemical Engineering Departments, one by Dr. D. L. Katz, former Chairman of the Department of Chemical and Metallurgical Engineering and Director of the Ford Foundation at the University of Michigan, and the other by Dr. J. M. Smith, Head of the Department of Chemical Engineering at Davis College, University of California. Two distinguished visitors to the Department of Electrical Engineering were Dr. D. Cass Begg, General Manager of the Saskatchewan Power Corporation, and Dr. G. M. Shrum, Chairman of the B. C. Energy Board and Director of Atomic Energy of Canada Ltd.

DEVELOPMENT OF FACILITIES

Chemical and Petroleum Engineering

The program of extensive renovations in the Medical Building, which included the Departmental space on the ground and basement floors, has now been essentially completed. The improvements resulting from this program are very considerable, but the entire area was out of service until October. This put a severe strain on the Department in order to put the laboratories, classrooms, shop, and stores back into service while the academic term was in session.

Four of the ten chemical engineering laboratory experiments have been completely rebuilt and modernized and three more are scheduled for completion this summer. Some new experiments are contemplated in order to broaden the type of experiment offered to include thermodynamics and reaction kinetics.

Civil Engineering

Plans were approved for the provision of a graduate and research Structures Laboratory at Edmonton which will be one of the best facilities of its kind on the continent. Its completion is planned for the Fall of 1963 of coincide with the offering of Ph. D. programs in this important field of Civil Engineering.

An addition to the Graduate Hydraulics Laboratory was completed which provides good service, storage and laboratory office facilities so that the laboratory can be utilized fully as originally planned.

Electrical Engineering

New equipment was purchased and new experiments were developed in all third and fourth year laboratories. The equipment moved from the

Power House was progressively modified and recommissioned during the year.

Mechanical Engineering

During the past year the equipment in the third year thermodynamics laboratory was thoroughly overhauled and renovated. The combustion laboratory was enlarged; two new engines and a ram jet were added. A package steam boiler was installed so that the combustion of various fuels could be studied and their efficiencies compared. A General Electric axial flow, variable blade fan and dynamometer were obtained for the study of blade design. This piece of equipment can also be used in undergraduate experiments to study fan performance and air flow characteristics.

Equipment for the heat transfer laboratory has been obtained or constructed to illustrate steady state and transient heat flow characteristics. Much of this equipment is set up so that the experimental results can be compared to the theoretical results obtained on the Digital Computer. The refrigeration equipment has been remodelled and upgraded. The gas-fired heating, air conditioning, and evaporative cooler donated by Northwestern Utilities has been commissioned and is used in the study of heat and mass transfer in air-water mixtures.

Calgary

During the 1961-62 academic year, the engineering program at the University of Alberta, Calgary has continued almost unchanged from the previous academic year. One new staff member, Dr. H. A. R. dePaiva joined the Civil Engineering Department, bringing to six the number of engineering instructors. The general trend of shrinking enrollments in engineering has reflected in the small increase in first-year students from ninety-nine to one hundred two. Of these, three dropped out with ninety-nine going on to finish the year. Fifty-nine students started second year. Two withdrew leaving fifty-seven to complete the term.

One Calgary freshman engineer with an average of 92.0% divided major honors with an Edmonton student whose average was 92.4%. Two more Calgary freshmen had first class standing. A total of forty-seven students, 47.5% of the Calgary class, cleared first year. Twenty-nine more (29.3%) may write supplemental examinations. Three students (3.0%) have been placed in Category III and may repeat the year, while nineteen (19.2%) received Category IV standing. One student was granted incomplete standing. Sixty-eight students are in a position to proceed to second year and another eight can join them by passing supplemental examinations.

Of the second-year Calgary class one student had honors and

another secured first-class standing. Thirty students (52.6%) of the class cleared second year. Fourteen more (24.6%) were granted supplemental examinations and may proceed to third year if they succeed in these. Two students were placed in Category II, and ten in Category IV. One student was allowed deferred final examinations.

It is felt that these results are normal for the course and the selection of students attending. All student failures are regrettable. Some derive from lack of ability, interest or industry, but others must be attributed to some inadequacy in instruction or program. The Conference on Engineering Education pointed up the need for up-grading of engineering courses, but also for improvement of instruction. Various techniques for improving instruction were suggested. It is hoped that some of these will be tried during the coming year.

Several faculty members carried on research projects during 1961-62. None were terminated. They will be continued. Two instructors were granted assisted leave to enable them to work towards the doctorate. Inauguration of the new first and second year engineering programs will make the 1962-63 academic year interesting and challenging as will the prosecution of research projects.

REGISTRATION STATISTICS

The distribution of the undergraduate registration through the years of the programs and among the branches of engineering for the 1961-62 session was as follows:

Branch	First Year	Second Year	Third Year	Fourth Year
Chemical	-	32	26	37
Civil	-	60	70	73
Electrical	-	69	48	82
Engineering Physics	-	-	7	11
Mechanical	-	47	39	34
Metallurgical	-	9	7	8
Mining	-	1	3	2
Petroleum	-	2	6	6
Sub-Total - Edmonton	236	220	206	253
- Calgary	102	59	-	-
TOTAL	338	279	206	253

The total undergraduate registration was 161 in Calgary, 915 in Edmonton and 1,076 for the Faculty. A total of 90 engineering students were registered in M.Sc. and Ph.D. programs in the Faculty of Graduate Studies. These were distributed as follows:

<u>Branch</u>	<u>M. Sc.</u>	<u>Ph. D.</u>	<u>Total</u>
Chemical	11	4	15
Civil	38	2	40
Electrical	6	-	6
Mechanical	7	1	8
Metallurgical	5	4	9
Mining	-	-	-
Petroleum	12	-	12
			—
TOTAL			90
			—

TABLE I

RESEARCH ACTIVITIES OF STAFF OF THE FACULTY OF ENGINEERING

July 1, 1961 - June 30, 1962

Supervisor	Project	Financial Support for Project	Student	Financial Support for Student
DEPARTMENT OF CHEMICAL AND PETROLEUM ENGINEERING				
I. G. Dalla Lana	Study of Gas Solids Flow in Vertical Pipe	N. R. C.	B. Bowers	N. R. C. & U. of A.
I. G. Dalla Lana & D. B. Robinson	Dehydrogenation of Alcohols	C. C. C.	K. Vasudeva	C. C. C. & U. of A.
I. G. Dalla Lana & D. Quon	Partial Oxidation of Butane	N. R. C.	N. E. Anderson	N. R. C.
I. G. Dalla Lana	Solids Concentration Gradients in Gas-Solids Flow	N. R. C. U. of A.	O. C. Sandall	Shell Oil U. of A. N. R. C.
D. L. Flock	Miscible Fluid Displacement	N. R. C.	J. A. Adamson	R. C. A.
D. L. Flock	Scaling Model Flow Tests	P. P. R.	H. Maguss	R. C. A. U. of A. P. P. R.
D. L. Flock	Sweep Efficiencies	P. P. R.	K. C. G. Pritchard	P. P. R. R. C. A. U. of A.
D. L. Flock	Bacteria and Plugging of Rocks	N. R. C.	J. T. Raleigh	U. of A.
D. L. Flock	Effective Gas Saturation of Fluid Displacement	P. P. R.	A. Samad	N. R. C.

TABLE I (continued)

D. L. Flock	Water Flooding	P. P. R.	I. Budhiraja	R. C. A.
D. L. Flock	Water Injectivity	P. P. R.	H. E. Ripley	R. C. A. & U. of A.
D. L. Flock	Single Phase Gas Flow	P. P. R.	R. J. K. Hamilton	Pan American U. of A.
D. L. Flock	Sweep Efficiencies	P. P. R.	W. E. Culham	R. C. A.
G. W. Govier	The Upwards Vertical Flow of Two-Phase Two Fluid Mixtures	N. R. C.	R. A. S. Brown	N. R. C.
G. W. Govier	Rheological Properties of Water Suspensions of Spherical Particles	N. R. C.	A. E. Mather	N. R. C. & U. of A.
G. W. Govier	Rheological Behaviour of Pembina Crude Oil	N. R. C.	R. A. Ritter	None - on staff
L. U. Lilleleht	Interfacial Forces in Co-current Liquid-Liquid Flow	N. R. C.	M. E. Charles	U. of A.
D. Quon & I. G. Dalla Lana	Partial Oxidation of Butane	N. R. C.	N. E. Anderson	N. R. C.
D. Quon	Kinetics of the Reaction of Carbon- dioxide and Carbon	R. C. A.	M. P. Rosenbloom	R. C. A.
D. Quon	Pryolysis of Hydrocarbons	N. R. C. U. of A.	P. K. Leung	N. R. C. U. of A.
D. B. Robinson	Phase Behavior of the Butane - Hydrogen Sulphide System	Imperial Oil N. R. C.	J., A. Sandercock	Imperial Oil N. R. C.
D. B. Robinson	Hydrate Formation in Hydrocarbon Systems Containing CO ₂ and H ₂ S	N. R. C.	D. L. Sortland	N. R. C. U. of A.

TABLE I (continued)

D. B. Robinson	A Study of Gas Hydrates	N. R. C.	J. M. Jhaveri	N. R. C. U. of A.
D. B. Robinson	Volumetric Behavior of Hydrocarbon Non-Hydrocarbon Systems	N. R. C.	K. K. Tiwari	N. R. C. U. of A.
D. B. Robinson	Phase Behavior of a Hydrocarbon Non-Hydrocarbon System	Imperial Oil N. R. C.	R. E. Hughes	Cal. Standard U. of A.
D. B. Robinson	Water Solubility in Condensates	Imperial Oil N. R. C.	J. Lukacs	Imperial Oil U. of A.
D. B. Robinson & I. G. Dalla Lana	Dehydrogenation of Alcohols	C. C. C.	K. Vasudeva	U. of A. C. C. C.
R. A. Ritter	Rheological Behavior of Thixotropic Model	N. R. C.	D. R. Prowse	N. R. C. U. of A.

DEPARTMENT OF CIVIL ENGINEERING

K. O. Anderson	Pavement Design	-	D. R. Bird	-
K. O. Anderson	Lime-Asphalt Stabilization	R. C. A.	P. A. Brochu	-
K. O. Anderson	Asphalt-Stabilized Bases	R. C. A.	A. A. Brown	-
K. O. Anderson	Asphalt-Stabilized Sand	R. C. A.	R. C. G. Haas	R. C. A.
K. O. Anderson	Chemical Stabilization of Soils	R. C. A.	J. Hvozdzanski	-
K. O. Anderson	Durability Tests on an Asphalt-Stabilized Sand	R. C. A.	V. C. Jones	-
K. O. Anderson	Soil-Asphalt Stabilization With a Lime Additive	-	J. A. Knowles	C. G. R. A.

TABLE I (continued)

K. O. Anderson	Structural Comparison of a Sand-Asphalt with a Soil Cement	R. C. A.	D. G. Pennell	-
K. O. Anderson	Asphalt-Stabilized Sand	R. C. A.	R. C. White	-
K. O. Anderson	Muskeg Studies in Alberta	R. C. A.	-	-
R. W. Ansley	The Hydraulic Transportation of Sand Through Pipelines	C. S. A.	C. D. D. Howard	C. S. A.
T. Blench	Hydraulic Transportation of Sands in Flumes	C. S. A.	R. W. Ansley	None - staff
T. Blench	Stilling Basins in Hydraulic Flume	-	K. Kamra	-
T. Blench	A Study of Meandering of Red Deer River	-	M. S. Qureshi	-
T. Blench	Two-Fluid Behavior in a Model Aquifer	-	H. A. Sealy	C. C. S.
T. Blench	Consequences of Eliminating River Meanders	-	W. Solodzuk	-
E. L. Fowler	Pneumatically Placed Concrete	-	C. N. Ellert	-
R. M. Hardy	Cation Effect on Shear Strength of Clay Shales	R. C. A.	S. Thomson	None - staff
J. Longworth	Prestressed Concrete	U. A. G. R. G.	H. T. Butchart	-
J. Longworth	Timber Connectors in End Grain	C. I. T. C.	R. D. Cameron	-
J. Longworth	The Effect of Strain Hardening on the Ultimate Load Capacity of Steel Frames	C. I. S. C.	I. F. Kraemer	-

TABLE I (continued)

J. Longworth	Bond of Steel in Prestressed Concrete	-	W. B. Landers	-
J. Longworth	Stability of Steel Frames	-	A. D. Turnbull	-
J. G. MacGregor	Combined Bending and Flexure in Reinforced Concrete Columns	U. of A.	S. L. Barter	-
S. R. Sinclair	A Further Study of Swelling Properties of Expansive Clays	R. C. A.	T. J. Bradshaw	R. C. A.
S. R. Sinclair	Swelling Properties of Expansive Clays	R. C. A.	H. E. R. Ottley	R. C. A.
S. R. Sinclair	Effect of Temperature Variation on Shear Strength of Clay Soil	R. C. A.	W. Semchuk	R. C. A.
DEPARTMENT OF ELECTRICAL ENGINEERING				
Y. J. Fokkinga	Multiplier/Dividers for Analog Computers	U. of A.	J. A. Ash*	U. of A.
Y. J. Fokkinga	Delay Generators for Analog Computers	U. of A.	J. A. Ash*	U. of A.
Y. J. Fokkinga	Design and Properties of High Gain Magnetic Amplifiers	U. of A.	D. Mykitiuk*	U. of A.
Y. J. Fokkinga	Transistorized Differential Amplifiers	U. of A.	J. A. Ash*	U. of A.
J. A. Harle	Sensitive Dynamic Pressure Recorder	U. of A.	K. G. Clarke	None - on staff

* Research Assistants

DEPARTMENT OF MECHANICAL ENGINEERING

G. Ford & J. S. Kennedy	Transverse Curvature of Thin Plates	N. R. C.	D. G. Bellow	N. R. C. & U. of A.
G. Ford	Stress Concentration at Holes in Thick Cylinders	-	T. James	-
J. Haddow	A Theoretical Study of Cone Indentation	N. R. C.	T. H. Danyluk	N. R. C.
J. Haddow	An Experimental Study of Axi- Symmetric Extrusion and Piercing	N. R. C.	J. Chudobiak	U. of A.
J. Haddow	A Theoretical and Experimental Study of Tube Extrusion	N. R. C.	-	-
J. Haddow & D. Bellow	Analysis of Thermal Stress in Square Bars	-	-	-
J. Haddow	A Study of the Use of the Dirac Delta Function in Beam Problems	-	-	-
J. S. Kennedy	Buckling of Pony Truss	R. C. A. D. O. H.	R. B. Pinkney (M. Sc. - Civil)	R. C. A. & D. O. H.
G. W. Sadler	Preliminary Study of Solar Radiation	-	-	-
G. W. Sadler	Evaporative Cooling of Water by Air	-	-	-
D. Panar	Two Fluid Gas Turbine Investigation	-	J. D. Dale	-
D. Panar	Detonation Characteristics of Mixed Fuels	-	-	-

TABLE I (continued)

A. Eshel	Heat Transfer in Nucleate Boiling	-	-	-
A. Doige	The Effect of High Loading on the Subsequent Fatigue Life of 245-73 Aluminum	N. R. C.	-	-
A. Doige	N. R. C. Collaborative Fatigue Testing	N. R. C.	-	-
R. H. B. Hebbert	A Study of the Rheological Characteristics of Clay Suspensions	Cities Service	-	-
H. R. McArthur	Electromagnetic Detection of Nerve Impulses	U. of A.	-	-
DEPARTMENT OF MINING AND METALLURGY				
J. Leja	Improved Spectroscopy Studies	N. R. C.	G. W. Poling	U. of A.
J. Leja	Interferometric Study in Zn/ Zn/ SO ₄ / Zn	N. R. C.	F. W. Yakymyshyn	N. R. C.
J. Leja	Stress Corrosion Cracking and Use of Inhibitors	N. R. C.	H. E. Johnson	N. R. C.
E. O. Lilge	Dissolution of Non-Metallic Minerals	E. M. R.	H. Siebert	E. M. R.
E. O. Lilge	Performance of the Hydrocyclone	E. M. R.	-	-
J. G. Parr	Mechanisms of Hardening in Metals	D. R. B.	L. P. Srivastava	D. R. B.
			W. Swanson	D. R. B.
			M. J. Bibby	Stelco
J. G. Parr	Measurement of Absolute Intensities in X-ray Diffraction	N. R. C.	A. J. Goldak	N. R. C.

TABLE I (continued)

J. G. Parr	High-Temperature X-ray Diffraction Study of Zn-Al System	A. Z. I.	-	-
J. G. Parr	Effect of Oxygen on Hydrogen Solubility in Zirconium	A. E. C.	-	-
J. G. Parr	Transformation in Pure Cobalt	C. R. C.	M. J. Bibby	Stelco
W. V. Youdelis	Electromagnetic Effects on Solidification Mechanism of Binary Alloys	N. R. C.	J. R. Cahoon	Stelco
W. V. Youdelis	Electromagnetic Effects on the Irreversible Transport Processes of Alloy Solidification	N. R. C.	D. R. Colton	N. R. C.
W. V. Youdelis	Research on Amalgams	N. R. C.	D. Innes	N. R. C.
T. H. Patching	Strata-Stress Studies - Outbursts of Coal and Gas	C. O. A.	-	-

LIST OF ABBREVIATIONS FOR TABLE I

N. R. C.	National Research Council
R. C. A.	Research Council of Alberta
C. C. C.	Canadian Chemical Company
P. P. R.	Petroleum Production Research - sponsored jointly by Research Council of Alberta, University of Alberta, and Alberta petroleum industry.
C. I. S. C.	Canadian Institute of Steel Construction
C. I. T. C.	Canadian Institute of Timber Construction
U. A. G. R. G.	University of Alberta General Research Grant
C. G. R. A.	Canadian Good Roads Association
C. S. A.	Cities Services Athabasca
D. O. H.	Department of Highways, Province of Alberta
E. M. R.	Eldorado Mining and Refining
A. Z. I.	American Zinc Institute
C. R. C.	Cobalt Research Center
C. O. A.	Coal Operators Association of Western Canada
A. E. C.	Atomic Energy of Canada

REPORT OF DEAN A. G. McCALLA OF THE FACULTY OF GRADUATE STUDIES

The most striking feature of graduate studies during 1961-62 was the increase in work leading to the Ph. D. degree. Last year there were ten degrees granted and the annual report predicted a sharp increase. This has been realized, since 26 Ph. D. degrees were awarded, 13 at each of Fall and Spring Convocation. Five additional fields of academic work were approved for Ph. D. programs, bringing the total to 30 departments in which doctoral programs are offered. It is significant that four of the new programs are in the humanities and social sciences. The number of students registered as candidates and provisional candidates for the Ph. D. was ten times the number registered five years ago.

A second striking feature was an increased number of foreign students and an increased number of countries from which they came. Out-of-Canada students totalled 114 from 22 countries in 1960-61, and 180 from 32 countries this year. Some of these students are landed immigrants but the number on student visas was about 125. In general these students have made satisfactory progress although a few have had serious difficulties.

During the past year we required a number of foreign students to complete the University of Michigan English language examination before we granted admission. As a result of the recommendations from Michigan one or two applications were rejected. On the whole we have not had serious difficulties with language problems but it is clear that many students who apply for admission are deficient and a careful check is required.

Enquiries and applications continue to increase, particularly from the Orient. It is possible to admit only a very small proportion of those who apply, but this has meant that our standards of admission for such students can be kept high. Selection is improving but it is still very difficult to be sure that those admitted have the necessary qualifications and ability.

Registration figures are summarized in the following two tables. There were fewer duplicate registrations this year than in any recent year. This is the result of making Summer Session registration cover departmental supervision and use of the library for twelve months instead of the Summer Session only. Otherwise winter session registrations would have been much higher. The various changes in administrative procedure have worked very well and have reduced office work considerably.

The large decrease in the number registered for the M. Ed. in the winter session is also the result in the change in Summer Session registration coverage, since nearly all students affected are teachers working

TABLE I

<u>Session</u>	<u>Number of Students</u>			
	<u>1956-57</u>	<u>1959-60</u>	<u>1960-61</u>	<u>1961-62</u>
Winter*	239	435	533	619
Summer	138	171	192	196
Evening Credit	-	33	16	24
Duplicates	-43	-58	-86	-33
TOTAL	<u>334</u>	<u>581</u>	<u>655</u>	<u>806</u>

* Omitting special students registered in the graduate medical training program.

TABLE II

Registrations in the Winter Session

<u>Degree</u>	<u>1956-57</u>	<u>1959-60</u>	<u>1960-61</u>	<u>1961-62</u>
Master of Arts	34	60	68	94
Master of Education	70	73	102	61
Master of Science	72	189	149	203
Doctor of Philosophy	18	95	149	188
Doctor of Education	-	5	2	0
	<u>194</u>	<u>422</u>	<u>470</u>	<u>546</u>
Probationary and conditional	45	30	44	51
Special	-	43	49	50

for this degree. It also seems significant that registrations for the Ed. D. have decreased. In general students in Education appear to prefer the Ph. D.

The increased numbers and work of the Faculty office made it necessary to obtain additional staff. Mr. T. Fostvedt was appointed as part-time Assistant to the Dean and has made a substantial contribution

since last September. Miss B. Leah was appointed as a clerk-typist in November and is doing excellent work. Miss Peers continues to give most satisfactory service. I should also like to thank Dr. M. Wyman and Dr. E. J. H. Greene who took responsibility in my absence for ten weeks last summer, six of which were spent as Canadian Co-director of the World University Service Student Seminar in Sweden.

REPORT OF DR. E. L. EMPEY
OF THE
SCHOOL OF HOUSEHOLD ECONOMICS

Total enrollment in the School was similar to total enrollment last year. The number of students enrolled in the first year of the Household Economics program in Calgary continues to increase gradually; the number was two in 1959-60, three in 1960-61, and six in 1961-62. The junior College at Lethbridge is considering admitting students into the first year of the programme under an arrangement similar to the one used in Calgary.

Mrs. Alberta Elcombe is currently working toward the degree of Master of Science in Nutrition under Dr. Ruth Renner and has this summer commenced her research project. Dr. Renner's research in the field of fat metabolism has progressed steadily and has already yielded answers. She has had two papers published and has delivered papers orally at meetings of two national professional associations, the Poultry Science Association in Pennsylvania and the California Animal Industry in Fresno, California. On her way back from California Dr. Renner was invited by the Poultry department at the University of British Columbia to stop over and address a meeting of poultry technologists. As soon as classes closed at the end of April, 1962, an attempt was begun here in our School to formulate a nutritionally complete "bread" which could be used as the sole source of nutrients for studies of fat absorption in the human. First attempts have been promising.

A questionnaire concerning the status and nature of textiles teaching in leading Home Economics Colleges in the American Universities was devised by Mrs. Rawson this year. It was intended to be used to assist in planning for future expansion in this area of study at the University of Alberta. The completed questionnaires have been returned and will be analysed this summer. Mrs. Rawson also began a survey to determine the comparative knowledge of textiles of four groups of persons: a) students presently enrolled in Clothing and Textiles courses in this School; b) graduate home economists working in the textiles field; c) consumers particularly interested in textiles (for example, mothers of young children); d) sales clerks in "piece goods" departments of stores in Edmonton. The survey has been carried out on the first two groups to date.

This spring Miss Lukianchuk will attempt to adapt available facilities and space in the hope that they may be made useful to her for research in the field of meat processing and meat cookery. If she is successful her experiments will be conducted this summer and next.

Last year an Examining Board of Professional Dietetics was set up by General Faculty Council, and this spring one graduate of a college in the United Kingdom which educates young women for a career in professional dietetics wrote the examinations to establish the equivalence of her under-

graduate study with the work offered in the degree programme at this University.

Three first-year students completed the first ten week period of approved dietetic interneship last summer under the newly developed scheme of integrated interneship with academic study; they will complete a second period this summer, and five first-year students will complete their first period.

Four of the students who will graduate this spring have secured graduate assistantships at American universities and will pursue post graduate studies, one in the field of Clothing, two in Nutrition and a fourth in a programme which combines dietetic interneship with work towards a Master's degree in Nutrition. Nine students will go to hospitals in various parts of Canada to complete approved dietetic interneships.

The building committee of the School has had the cooperation of the office of the Superintendent of Buildings and the Department of Public Works in preparing a sketch plan of a building. This has been presented to the Campus Planning Committee along with a formal request to the Committee to recommend that the Board of Governors accept the plan, grant permission for detailed planning to be completed, and authorize the commencing of construction at the earliest possible date in the year 1963-64. The need for expanded and improved facilities is apparent when one realizes that highly qualified persons who wish to conduct research as well as teach, cannot be invited to join the School staff and swell its numbers, since no space and facilities are available for research activities.

REPORT OF DEAN W. F. BOWKER
OF THE
FACULTY OF LAW

Academic

There has been no change in curriculum since those effected in 1958. However, we have increased the number of seminars in third year and in various courses have increased the number of special assignments. The students have responded well to this type of work and found it both interesting and profitable.

The faculty had a visitor for four weeks early in 1962 - Professor J. F. Northey of the University of Auckland in New Zealand. He attended a number of classes and gave several lectures. His presence was altogether stimulating.

The enrolment was greater than it has been for a number of years.

Law III	-	33
Law II	-	45
Law I	-	48

The performance of the graduating class was of a high order, and in general, the students were industrious.

Staff

Associate Professor Sherbaniuk returned from a year's leave of absence at Columbia University. He has received the degree of LL. M. and has done a substantial part of the work toward S. J. D.

Associate Professor Thompson will leave in September on sabbatical leave to study for the S. J. D. Degree in Oil and Gas Law at Columbia University.

Assistant Professor Guttman is leaving after two years here.

In the past year the faculty has been more active than ever before in activities of the profession and in assisting with legal programmes for various groups of laymen.

Professors Angus and Guttman attended the annual meeting of the Association of American Law Schools at Chicago and it is expected that all of the full-time staff will attend the Annual Meeting of the Association of Canadian Law Teachers at Toronto in June, 1962. Professor Alex Smith

is on the executive and Assistant Professor Angus is to present a paper.

In August, 1961, Associate Professor Thompson attended a meeting of the Rocky Mountain Oil and Gas Institute at Albuquerque and in February, 1962, attended a similar meeting at Southern Methodist University in Dallas.

During the second half of the year, he and Assistant Professor Angus conducted a twelve-week seminar in oil and gas law for oil and land men and early in May will have a major part in a special two-day seminar for lawyers at Banff in Oil and Gas Law.

During the winter months, Associate Professor Thompson was a member of a committee set up by the Provincial Government to recommend revision of the Province's oil and gas legislation. The committee reported early in 1962 and its recommendations were adopted in new legislation.

At the annual meeting of the Law Society of Alberta, Assistant Professor Angus had a major part in a panel discussion on Expropriation, while Dean Bowker gave a paper on Limitation of Actions.

Generally the Faculty has been able to do more than formerly in producing its own teaching materials and all members have major research under way. The number of publications is increasing.

Library

In the last two years the Faculty has been able to start on a systematic five-year plan to build up its collection to a good level. Often the books most needed are in short supply, and the Faculty has been successful in acquiring a number of these. The problem of housing them becomes proportionately acute.

Alberta Law Review

This venture is now six years old. We think the students have justified the faith and support of the Board of Governors. The quality has improved continually and the forthcoming annual issue will be the best yet in quality, size and format. The profession in the Province has welcomed the Review and it is of benefit to them as well as to the student body. Mr. Walter Shandro has done an excellent job as Editor, with the assistance of a capable board.

Judge J. L. Crawford Memorial Fellowship

In the year 1952, one of our graduates, George L. Crawford, Q. C., of Calgary, conceived the idea of making available in each year the sum of

\$500 to a member of the staff to assist him in pursuing graduate study or research. The award is named in memory of His Honour Judge J. L. Crawford, the donor's father. Application is made through the Dean to the President and on their recommendation, the award is made. In only one year in the past decade was there no Fellowship granted. In several cases it has gone to a staff member on sabbatical leave. In others, it has gone toward special research done during the summer, toward the preparation of teaching materials, and to enable one or two staff members to attend important conferences.

This is a unique form of assistance that is of great practical value to the Faculty.

Comment

In last year's report, mention was made of the fact that one of our recent graduates, Mr. R. R. Stuart, had graduated from Wadham College, Oxford, with a "congratulatory first" for the degree of B. C. L. and won the Vinerian Scholarship. Since then he has been elected a Fellow of All Souls College, Oxford, which is understood to be a signal honour.

REPORT OF DEAN W. C. MacKENZIE
OF THE
FACULTY OF MEDICINE

It is my privilege, at this time, to present the annual report of the Faculty of Medicine for the academic year 1961-62.

During the year the Faculty of Medicine of the University of Alberta joined with the Canadian Medical Association, Alberta Division, and the College of Physicians and Surgeons of Alberta in the preparation of a brief which was presented to the Royal Commission on Health Services. Our joint brief was concerned with the widest examination of the various factors involved in maintaining the health of the nation and means of improving it by education, research and the increased availability of health services.

In keeping with the trend of expansion in today's health resources, 75 students were registered in first year medicine in September, 1961, which represented an increase of 18% over the previous year. With an increase in the number and quality of applicants for medicine, we expect, in the next year, a record enrolment of at least 80 students in our first year class.

At the Convocation for Dentistry and Medicine on May 29th, 52 graduands received the degree of Doctor of Medicine. The total enrolment in the Faculty of Medicine at the start of the 1961-62 session was as follows:

	Men	Women	Total
First Year	66	10	76
Second Year	57	7	64
Third Year	36	3	39
Fourth Year	50	3	53

There have been relatively few changes in the content of the curriculum in the area of undergraduate education. In the Division of Microbiology two new senior graduate courses were presented for the first time. A Ph. D. programme has been inaugurated in the Department of Pharmacology. A new course was given to Dental Auxillaries in the Department of Anatomy. The teaching hospitals associated with the Medical School continue to supply facilities for clinical teaching in a most cooperative manner.

In October 1961, many questions related to the future of the school were examined by a special study committee consisting of heads of

departments and others, in a three-day conference. The emphasis of this study was on curriculum and we were fortunate in having Doctor George E. Miller, the Director of Research in Medical Education at the University of Illinois join us and guide the discussions. His thoughtful, provocative, constructive criticism was invaluable. The detailed report of this study was made available to the Faculty and the influence and impact of this assessment has had a very salutary effect on our future plans. We have spent some time since this meeting in drawing up overall aims and objectives of this school and considered changes in our approach to medical education.

The immediate and most important concern of the University of Alberta Medical School is, and always will be, to excell in the production of well-trained physicians ensuring the finest medical care for the people of our country.

In the field of graduate training, we have continued an active interest in two spheres. First, the direct supervision of those graduates who are in training in various clinical specialties, preparing for the qualifying examination of the Royal College of Physicians and Surgeons of Canada. In addition, last year, we had 26 students registered in the Faculty of Graduate Studies of the University of Alberta, 15 proceeding to the Master of Science degree and 11 to the Degree of Doctor of Philosophy.

The Medical Laboratory Science programme, now in its fourth year since inception, is well established and a standing committee on the programme has been formed with representation from the Northern Alberta Technical Institute Committee on Registered Technicians.

Research

Doctor J. W. Pearce, the capable Chairman of the Research Committee has analyzed this important faculty endeavor and reported to the Council of the Faculty that research activity has realized increased achievement, as assessed by the quality and number of original papers - about 115, as compared with 81 last year - as well as by the special recognition given to a number of members of the faculty. All in all, the scope in research has been increased in all fields and, as an indication of the improving quality of the research, there has been a dramatic increase in funds to support research activities. Financial support for research by the Faculty amounted to \$781, 470 from National and other granting bodies, an increase of 80% over that provided last year. (Sources of this assistance are listed at the conclusion of this report.) This reflects an increased confidence in the effectiveness of our research efforts, because competition for funds is growing more rapidly than the amounts available in this area. We feel the development of the research activity of our faculty is a healthy one and look forward to sustained effort with continuation of this development. A collection of publications of the Faculty of

Medicine staff members is currently being assembled and deposited in the Medical Library. Details of publications by faculty members are outlined in Appendix XIII and scientific addresses delivered by faculty members are listed at the conclusion of this report.

Staff

The Faculty has suffered the loss, during the year, of emeritus Dean and Professor J. J. Ower and Professor Heber C. Jamieson. Professor Ower will be remembered by generations of doctors who learned their Pathology in his laboratory. He did a great deal for medical education and the medical profession in this city, in the province and in Canada. Heber Jamieson was a fine physician, unselfish teacher and gifted medical historian.

The Department of Pharmacology was established as an independent unit in July of 1961 by the harmonious division of the original joint department of Physiology and Pharmacology. Doctor E. E. Daniel, formerly of the University of British Columbia has been appointed as professor and head of the new department.

Doctor John S. Colter, formerly of the Wistar Institute of Anatomy and Biology, Philadelphia, Pennsylvania, was appointed during the last year as Professor and Head of the Department of Biochemistry. He will receive continuing support from the former Head of the Department, Doctor Collier, who will retain an active interest in teaching and research in the department.

The Faculty of Medicine's administration is confident that under the able, aggressive leadership of Doctors Daniel and Colter, both these departments will prosper.

Doctors Byron G. Lane and Gregory Schonbaum who came to us from the Rockefeller Institute and the Johnston Foundation, respectively, have joined the Department of Biochemistry as Assistant Professors. Doctor D. T. Kasper is a new member of the Department of Pathology and Doctor E. G. Bertram has joined the Department of Anatomy with the rank of Associate Professor.

Doctor J. R. Vant retires this summer as head of the Department of Obstetrics and Gynaecology and I would like to pay a particular tribute to his years of service and devotion to the affairs of the department. Doctor Vant will continue in active practice and as a postgraduate teacher.

To succeed Doctor Vant as Professor and Head of the Department of Obstetrics and Gynaecology, we have been fortunate in the appointment of Doctor William Paul of the University of Toronto - a brilliant young

man in the field of Obstetrics and Gynaecology, whose contributions, both in the field of patient care and in the research aspects of his specialty have earned him international recognition.

Doctor David Secord, formerly of the Veterinary College of Guelph, joined the faculty last year as the full-time Director of the Vivarium and has already made a tremendous contribution to our effort in the research field.

Doctor A. N. McTaggart has recently been promoted from Lecturer to Assistant Professor of Psychiatry.

Doctor T. K. Shnitka was promoted from Assistant to Associate Professor of Pathology and has assumed responsibility for the new electron microscope provided by the Medical Research Council of Canada for the medical school.

Awards

At Convocation on May 29th, 1962, Doctor G. D. W. Cameron, Deputy Minister of National Health, received the degree of Doctor of Law, *honoris causa*.

Doctor R. D. Stuart received the Kimble Methodology Award for his development of diagnostic methods in the field of Medical Bacteriology. Doctor J. W. Pearce was made a member of the Medical Research Council sub-committee in Physiology and Pharmacology. Doctor K. A. Swallow was awarded a Mead Johnson Fellowship for a year's study at John Hopkins University, Baltimore. Doctor R. F. Shaner, who completes 41 years of devoted service to the University this year was honoured by being invited to give the first annual lecture of the Canadian Heart Association - his subject "Congenital Anomalies of the Ventricle" representing his years of careful observation and research. Doctor K. Kowalewski attended a Ciba Foundation Symposium in Europe as an invited speaker on the subject "Steroid Hormones in Bone Formation". Doctor R. Cameron Harrison attended the International Congress of Gastroenterology in Germany this month as an invited speaker on the subject of "Gastric Secretion". Doctor E. E. Daniel has contributed by invitation to an international symposium on "Smooth Muscle". Doctor G. R. Schonbaum was awarded a Medical Research Council Associateship. Doctor R. S. Fraser was the annual lecturer of the Minnesota Heart Association.

Other honours to the Faculty include the appointment of Doctor D. R. Wilson, Professor of Medicine, as Honorary Physician to Her Majesty the Queen, the election to membership of Doctor R. A. Macbeth, Professor of Surgery, to the exclusive Western Surgical Association of the United States and Canada, the appointment of Doctor M. M. Hutton as

Section Chairman of the Society of Obstetricians and Gynaecologists of Canada and the writer was honoured to be chosen as Sims Commonwealth Travelling Professor in Surgery for 1962.

Distinguished Visitors

The following distinguished medical scientists were visitors to our Faculty in the past year:

Doctor Hillary Koprowski, Director of the Wistar Institute, addressed all medical years on "The Development and Use of Live Polio Vaccine".

Doctor Peter Nicholls of the Molteno Institute, Cambridge University, visited the Department of Biochemistry and gave a series of lectures to all medical years.

Doctor Alan Ross, Professor and Head of Paediatrics at McGill University.

Doctor Rolf Struthers, Medical Consultant, Canadian Council of Crippled Children and Adults.

Doctor Virginia Apgar, Director of the Division of Congenital Malformations, National Foundation, New York.

Miss Mary Williams, Matron of Queen Charlotte's Hospital London.

Doctor David E. Green, Head of the Institute for Enzyme Research, University of Wisconsin.

Doctor W. G. Bruce Casselman of the Institute for Muscle Disease in New York City where he holds the rank of Associate Member.

Physical Plans

The old portion of the Medical Sciences Building has undergone complete renovation and certain departments have now reoccupied quarters which they had to vacate during the renovations. This gain, however, was offset to some extent by the increase in the number of students and it will very soon be necessary to find new accommodation for the School of Nursing and the School of Physical and Occupational Therapy in order to provide additional expansion area for the pre-clinical sciences.

Medical Library

The library now contains about 11,800 books to which 468 were added during the past year. The subscription to 52 new periodicals has

brought the collection to 581 journals representing the fields of Medicine, Dentistry, Nursing and Pharmacy. It is most gratifying to note the steady increase in funds allotted, both for current periodicals and books and for back issues of journals.

In concluding, I would like to mention that Doctor James S. Thompson retired this year as Assistant Dean of the Faculty of Medicine returning to full-time academic teaching after a year's sabbatical leave. We are indebted to Doctor Thompson for his devotion to the welfare of the students and the overall interests of the Faculty and University during his term of office. He is succeeded by Doctor D. F. Cameron whose previous contributions to the Faculty in the Departments of Anaesthesia and Pharmacology assure us that his performance in this office will continue the excellent pattern of his predecessors.

I have had the good fortune to be associated with a group of excellent department heads who have continued to work together for the best interests of the school. We have continued to enjoy every cooperation from you, sir, Doctor Cragg and the other members of the administration and for this we are grateful.

In closing my year's report, let me say that everywhere in the medical school I have been conscious of a sense of dedication to the student and his welfare. This has encompassed professional and administrative staff whose guidance and fruitful work have been of great value in the progressive conduct of our affairs.

Sources of Financial Assistance for Medical Research

Medical Research Council	287, 454
National Cancer Institute	33, 238
Heart Foundation (Canada)	15, 200
Heart Foundation (Alberta)	44, 650
National Institutes of Health (U. S. A.)	24, 400
Atomic Energy Commission (U. S. A.)	23, 000
Muscular Dystrophy Association of Canada	53, 086
Multiple Sclerosis Society of Canada	6, 830
Drug Houses	31, 150
University of Alberta Medical Research Fund	12, 950
Banting Research Foundation	1, 500
National Health and Welfare	76, 657
Other University Funds	4, 240
Life Insurance Medical Research Fund	32, 600
National Research Council of Canada	25, 355
University of Alberta Hospital Special Services	19, 900
Canadian Arthritis & Rheumatism Society	4, 600
U. S. A. Vitamin Corporation	3, 000
Defence Research Board	18, 210
Canadian Cancer Society (Alberta Division)	5, 750
Canadian Polio Foundation	1, 000
College of Physicians & Surgeons Polio Fund	2, 400
Maternal & Child Health Grant	17, 800
The Merrill Muttart Foundation	6, 000
Summer Scholarships	10, 700
Other	12, 800

781, 470

Scientific Addresses Delivered

<u>Department</u>	<u>Number of Papers Presented</u>
Anaesthesia	3
Anatomy	9
Bacteriology	9
Medicine	45
Obstetrics and Gynaecology	40
Paediatrics	33
Pathology	1
Pharmacology	3
Physiology	11
Preventive Medicine	5
Psychiatry	17
Radiology	13
Surgery	91
	—
TOTAL	280
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REPORT OF MISS R. E. McCLURE
OF THE
SCHOOL OF NURSING

In the year 1961-62 there was a slight decrease in enrolment in the School of Nursing, particularly in the group of students registering for the final year of the degree program. Only one third of the eligible students returned to complete the fifth year. Although curriculum revision was made in the first and final years of the degree program, it seems apparent that changes should be made in the three clinical years with a view to reducing the length of the program.

Three new members were added to the staff: Miss S. Tretiak, Miss B. Harrington and Miss R. Geddes. During the summer months Miss Harrington and Miss Geddes are taking steps to improve their qualifications by commencing study toward master's degrees.

The program in Advanced Practical Obstetrics was evaluated by Miss M. Williams, a representative of the Central Board of Midwives of England and Wales, and in December 1961 the Board granted recognition of this program as equivalent to Part I Midwifery. During the year two other British nurse educators visited the School of Nursing to study the basic degree program.

Extension

Graduate nurse education continues to be an important function of the school. Two six-week courses in the "Care of the Premature Infant" were conducted in co-operation with the Department of Extension and the University Hospital. Two Institutes on "Maternal and Child Health" were organized in Edmonton and Calgary. A total of 200 graduate nurses attended. Both these projects were financed by grants from the Department of Public Health.

Professional Activities

Members of the staff have made contributions to professional and community organizations through active participation on executives and committees. Miss M. Campbell was invited to serve as a member of the Nursing Education Survey Committee which was established by the Minister of Health for the purpose of making a detailed study of all aspects of nursing in the Province. A submission on Nursing Education was made by the school for inclusion in the Brief presented by the Alberta Association of Registered Nurses to the Royal Commission on Health Services.

Members of the staff are represented on the following professional associations:

- | | |
|--------------------|--|
| Margaret Campbell: | Chairman, Nursing Committee
Alberta Division Canadian Red Cross Society. |
| Ruth McClure: | Chairman, Western Division, Canadian
Conference University Schools of Nursing.

President elect, Alberta Association of
Registered Nurses, Edmonton Chapter.

Chairman, Student Assistance Committee,
Alberta Association of Registered Nurses.

Member, Executive Council Canadian
Public Health Association. |
| Betty Harrington: | Member, Editorial Advisory Committee
of Alberta Association of Registered
Nurses Newsletter. |
| Ruth Geddes: | Member, Finance Committee, Alberta
Association of Registered Nurses. |
| Salomea Tretiak: | Member, Nursing Service Committee,
Alberta Association of Registered Nurses. |

REPORT OF DR. J. R. FOWLER
OF THE
SCHOOL OF PHYSICAL AND OCCUPATIONAL THERAPY

It is a pleasure to present the annual report to the University for the year 1961-62.

We commenced the fall term of 1961 in new premises in the Medical Sciences Building. We are very pleased with our new quarters, and feel they are adequate and will meet the need for some time.

A very successful graduation ceremony took place in September with twenty-eight graduates receiving their diplomas in Physiotherapy. This marked the last class to graduate under the two year programme.

There are nineteen students enrolled in first year and nineteen second year students will be writing their final examinations and preparing for summer externship. Arrangements have been completed for these students to undergo two months externship at a general hospital and two months at a mental hospital.

Miss Rowand, lecturer in Occupational Therapy, joined the staff in September. Miss Rendell, who has been with the school since it was first instituted, has been married and has resigned from the staff effective May 31st, 1962. A replacement has been found for her, but we are still looking for an additional lecturer in the Physical Therapy division.

Staff members have taken part in several Career Day programmes in order to encourage more students to undertake Physical or Occupational Therapy as a career. We are hoping to have the maximum of forty students enrolled in the very near future.

The Friday evening of Varsity Guest Weekend was set aside for meeting Guidance Counsellors from out of town who had come to Edmonton for the Weekend. It was a very pleasant evening spent in presenting and discussing the course at this school; and one feels this is a venture which was very worthwhile. It is hoped that a similar get-together may be held each year. This appears to be a very acceptable means of being in touch with these teachers who are counselling students, and who will be able to tell their students just what to expect at University.

The school staff are preparing a display for the Congress of the Canadian Physiotherapy Association which will be held in Edmonton in June this year. This is the first time such an event has taken place in Western Canada.

REPORT OF DIRECTOR M. L. VAN VLIET
OF THE
SCHOOL OF PHYSICAL EDUCATION

During the 1961-62 Academic Session the School of Physical Education has enjoyed a most productive year. All programs supervised by the School have improved and expanded. The actual numerical statistics are available in the President's Office in a more complete report.

Over \$1,000.00 worth of books and \$1,500.00 worth of micro cards have been added to the School Library through donations by the Alumni Association and the Physical Education Students' Society.

The newest major facility change is the completion of a small research laboratory which is already equipped for various experiments and study in areas of general fitness, strength, endurance and fatigue. Each graduate student is provided with a work space in the new laboratory.

The women staff members organized and supervised a two-day Clinic in Leadership through Recreation and Physical Education for high school girls. Over sixty-five girls from all parts of the Province came to the campus in May to participate in this program. The results were most rewarding and it is recommended that this weekend be scheduled annually.

In April, 1962, the President announced the establishment of a new four-year degree course leading to a B. A. in Recreation Leadership to be introduced in September, 1962. This very important step forward in the recognition of leisure time problems will provide opportunities for improvement in the quality and qualifications of those people engaged in recreation work. In addition to the usual technical courses major emphasis will be placed on a firm background of knowledge in the fields of sociology and psychology.

The academic staff members of the School continue to maintain their high standards and their desire for additional qualifications. Five are actively engaged in completing their master's degree, one has been granted leave for a year's study at London University, six are engaged in study leading to the doctorate degree and Professor L. Goodwin was awarded his doctorate this year.

One hundred and twenty-one students were enrolled in the B. P. E. program, registrations of B. Ed. students in physical education classes totaled one thousand, three hundred and ninety-eight, one thousand, two hundred and fifty-seven students were enrolled in the first year Service Program and four students engaged in graduate work leading to the master's degree.

Approximately forty percent of the student body engaged in some phase of the Intramural Program. Additions of such activities as the cycle race, Open House evenings and water polo have helped to increase the popularity of this recreational project.

The intercollegiate athletic teams ably represented the University with over twenty-five different teams in some fourteen activities. Special mention should be made of the Men's Cross Country Team which won the Western Intercollegiate Championship for the ninth consecutive year.

The new Physical Education Building on the Calgary Campus was officially opened in March, 1962. These excellent new facilities form a basis for an outstanding recreational and teaching program for many years to come.

REPORT OF DEAN M. J. HUSTON
OF THE
FACULTY OF PHARMACY

The 1961-62 session was a busy and successful year for the Faculty of Pharmacy. Enrolment remained high; research and graduate studies continued energetically professional liaison was active; and excellent new quarters were completed on the second floor of the Medical Sciences building.

Academic

The curriculum has undergone extensive study and revision in preparation for the inauguration of the optional fourth year in the 1963-64 session. The three year B. Sc. degree will continue to be the minimum requirement for licensure in Alberta but the four year degree will become available for those wishing to take honors or a major in an area of specialization. Five laboratory manuals have been prepared to facilitate laboratory organization.

Graduate study in pharmacy continues to expand. Two M. Sc. degrees were awarded, one at Fall Convocation and one in the Spring. Eight graduate students were enrolled in the department -- four working towards the Ph. D. degree and four towards the M. Sc. degree. Of these students, two received their undergraduate training in India, one in Pakistan, one in Ireland, one in Saskatchewan and three in Alberta. The student from Pakistan is supported by a Commonwealth Scholarship administered by the External Aid Office of the Canadian government. Research grants were awarded by the National Research Council to Dr. Anderson, Dr. Chatten, Dr. Palmer and Dr. Morrison. A Medical Research Council grant was awarded to Dr. Riedel.

The principal fields of research interest of staff members were: effects of hormones on tissue respiration; the use of radioisotopes to trace drug distribution; methods of assay of pharmaceutical preparations; extraction and characterization of plant constituents; and physicochemical properties of clays. Other problems being investigated included: polarographic study of antibiotics; release of medicaments from pharmaceuticals; assay of tissues for copper content; effect of hydrogen peroxide on experimental hypertension; weight and potency variations in tablets; and the efficiency of preservatives.

The Faculty continues as a source of advice and information for the practising members of the profession. Many phoned, written and oral requests for information were answered during the year.

Staff

A new member was appointed to the staff this year. Dr. L. G. Chatten comes to the university after twelve years with the Food and Drugs Laboratory in Ottawa and thus brings a wealth of experience in analytical pharmaceutical chemistry.

Staff members participated in a number of ways in local, provincial and federal organizations as well as carrying on their teaching and research responsibilities on the campus. Dr. Riedel organized and conducted a one-day Teachers' Conference in conjunction with the meeting of the Canadian Conference of Pharmaceutical Faculties in Hamilton, Ontario. Dean Huston was co-chairman of the Research Conference. Other staff members participated in these meetings. Dean Huston attended the meeting of the American Pharmaceutical Association in Las Vegas.

The faculty members and graduate students attended a two-day meeting of the Association of Western Colleges of Pharmacy in Saskatoon in March. The time was devoted to fruitful discussions of research, curriculum, teaching methods and professional problems. The attendance of the graduate students was made possible by a grant from the Council of the Alberta Pharmaceutical Association.

Dr. Anderson organized a refresher course at the time of the Alberta Pharmaceutical Association Convention in Edmonton in June.

Other activities of staff members included:

Dr. B. E. Riedel: Executive Assistant to the Vice-President; Commanding Officer of the University Reserve Squadron; Chief Instructor at the Reserve Officers School held at the Centralia R. C. A. F. Station; Abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica*; Corresponding member on committee on Drug Analysis for the British Pharmacopoeia Commission; various university committees and committees of the Canadian Conference of Pharmaceutical Faculties.

Dr. A. J. Anderson: Chairman, Committee on Pharmacy Admissions; Chairman, Archives Committee, Alberta Pharmaceutical Association; Chairman, Practical Training Committee, Canadian Conference of Pharmaceutical Faculties; member, University Committee on Student Employment.

Dr. K. H. Palmer: faculty representative on First Year Committee; Corresponding member on Committee on Alkaloids of the British Pharmacopoeia Commission.

Dr. L. G. Chatten: Corresponding member on two committees of the British Pharmacopoeia Commission.

Dr. J. C. Morrison: Senior Warden of Men's Residences and Warden of Athabasca Hall; faculty representative on Edmonton and District Druggists' Association Executive.

Dean M. J. Huston: Editor, Scientific Section of the Canadian Pharmaceutical Journal and member of the Editorial Advisory Board; Director of the Canadian Foundation for the Advancement of Pharmacy.

Building Developments

The Faculty moved to excellent new quarters on the second floor of the Medical Sciences Building. The space provides the very latest facilities and equipment for teaching and research in pharmacy. The Faculty is justifiably proud of the new quarters and feels they are second to none as a modern pharmaceutical educational institution.

Statistics

Employment opportunities for pharmacy graduates continues to be excellent. As a result enrolment has been maintained at a high level with a total of 201 students. Pharmacy continues to attract a high proportion of women and they constitute 42% of the present class.

Forty-two students were awarded degrees at Spring Convocation.

Other Information

Pharmacy has been interested in the activities of certain Royal Commission during the year. Dean Huston participated with the Alberta Pharmaceutical Association in the preparation and presentation of briefs to the Restrictive Trade Practices Commission in Calgary and to the Royal Commission on Health Services in Edmonton. Dean Huston also presented a brief on behalf of the Canadian Conference of Pharmaceutical Faculties to the Royal Commission on Health Services in Toronto.

The Faculty has an excellent liaison with the Alberta Pharmaceutical Association and works effectively with that body for the welfare of the profession and the public it serves. The Council of the Association has for many years provided a breakfast on the morning of Convocation day for the graduands and their families. This occasion is a delightful opportunity for a final pharmacy get-together before the graduates go their several ways. The Council this year presented to the University some valuable items for the pharmacy museum.

REPORT OF DR. JOHN W. GILLES, DIRECTOR
OF THE
EVENING CREDIT PROGRAM

In anticipation of the University of Alberta at Calgary assuming increasing, and eventually complete, responsibility for the provision of Evening Credit Program services in the southern part of the province, the Board of Governors appointed Dr. T. G. Finn as Associate Director of the Evening Credit Program, effective July 1, 1961. Dr. Finn assisted principally with the organization of the Evening Credit Program at Calgary.

In 1961-62 Evening Credit Program courses were offered at 14 centres, one more than in the previous year. Operations were transferred this year from Trochu to Acme so that the centre could be serviced with instructors from Calgary.

One course was offered at each of Medicine Hat and Lethbridge. These centres could support more than one Evening Credit Program course per year but their geographic locations make them extremely difficult to service with qualified instructors.

The total number of students registered for courses was 1324 as compared with 984 in 1960-61, a very substantial increase of approximately 35%. Approximately 50% of this increase occurred at Calgary where the Evening Credit Program was expanded from 5 to 9 courses. Another 25% was contributed by Medicine Hat and Lethbridge where classes of approximately 50 students met. Registrations at Edmonton increased by about 11% over last year.

The percentages of students registered in the Faculty of Education and in the Faculty of Arts and Science remained unchanged from last year at 75% and 12% respectively of the total enrolment.

The Evening Credit Program employed a total of forty-eight instructors, of whom thirty-seven were members of the University's teaching staff. The class at Medicine Hat was taught by an instructor from the Lethbridge Junior College; that at Olds, by an instructor from Red Deer. All other off-campus classes were taught by instructors recruited from either Edmonton or Calgary, most of them members of the regular teaching staff.

The salient features of this year's Evening Credit Program as compared with last year's are set forth in the following summaries.

CENTRES, COURSES AND REGISTRATIONS

<u>Centre</u>	<u>Number of Courses Offered</u>		<u>Number of Students Registered</u>	
	<u>1960-61</u>	<u>1961-62</u>	<u>1960-61</u>	<u>1961-62</u>
Edmonton	23	23	587	655
Camrose	1	1	24	24
Holden	1	1	29	38
Radway	1	1	21	26
Red Deer	2	2	63	65
Vegreville	1	1	34	41
Wainwright	1	1	22	28
Westlock	1	1	12	13
Wetaskiwin	1	1	12	26
TOTAL Northern Alberta	32	32	804	916
Calgary	5	9	142	268
Acme (Trochu)	1	1	9	17
Lethbridge	-	1	-	42
Medicine Hat	1	1	11	51
Olds	1	1	18	30
TOTAL Southern Alberta	8	13	180	408
TOTAL All Centres	40	45	984	1324

CLASSIFICATION OF STUDENTS

	<u>Registration</u>	
	<u>1960-61</u>	<u>1961-62</u>
Faculty of Education	731	990
Faculty of Arts and Science	119	154
Faculty of Graduate Studies	13	23
Faculty of Commerce	18	14
Other Faculties and Schools	10	8
Special Students	93	135
	984	1324

REPORT OF DR. JOHN W. GILLES, DIRECTOR
OF THE
SUMMER SESSION 1961

The most significant development this year was the inauguration of a Summer Session at the University of Alberta, Calgary. Dr. T. G. Finn, Professor of Education, was appointed Associate Director of the Summer Session with special responsibility for the Session at Calgary.

The actual attendance at the Edmonton Summer Session was 2903, a decrease of only 82 from last year, while at Calgary the attendance was 636. The total attendance at the two Summer Sessions was 3539, an increase of 554 over the 2985 students who attended at Edmonton in 1960.

Separate reports on the Summer Session at Edmonton and Calgary follow, the latter prepared by Dr. Finn.

THE SUMMER SESSION AT EDMONTON

Registration and Attendance

The advance registration for the 1961 Summer Session at Edmonton reached a total of 3590. Of this number, 687 students did not attend so that the actual enrolment was 2903, a decrease of 82 from that of the preceding year. To this number should be added another 65 who were registered in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1961 Summer Session was 2968 compared with 3048 last year. A summary of the attendance figures follows.

Summary of Attendance

<u>Faculty or School</u>	
Education	2233
Arts and Science	190
Graduate Studies	187
Other Faculties and Schools	37
Special Students	<u>256</u>
	2903
Leadership Course for School Principals	<u>65</u>
	<u>2968</u>

Of the 2903 students who attended the Summer Session proper, approximately 77% were registered in the Faculty of Education and 6.5% in each of the Faculties of Arts and Science, and of Graduate Studies. The remaining 10% were distributed through various schools and faculties or were registered as special students.

The immediate effect of the Calgary Summer Session on the enrolment at Edmonton has been not only to eliminate the normal increase that could have been anticipated, but also to bring about a slight reduction in attendance. The Calgary Summer Session probably attracted about 300 students who otherwise would have attended at Edmonton.

A summary of Summer Session enrolments at Edmonton for the last five years is given below.

Year	Summer Session Enrolments 1957 - 1961			Total
	Regular S.S. Courses	Emergency Teacher Training Program	Leadership Course	
1961	2903	--	65	2968
1960	2985	--	63	3048
1959	2714	58	69	2841
1958	2224	110	75	2409
1957	1906	178	65	2149

Instructors

The Summer Session teaching staff comprised a total of 144 instructors, 11 less than in 1960. Of these, 101 or 70%, were regularly engaged in teaching at University or junior college levels, or had had several years of such experience in the recent past. Seventy, or 55%, were members of the staffs of the University of Alberta or of its affiliated colleges. The following summary indicates the sources from which Summer Session instructors were drawn.

Visiting instructors from outside the Province included the following:

Dr. B. R. Abu-Laban	Stanford University, California
Dr. A. R. Armstrong	College of William and Mary, Williamsburg, Virginia
Dr. W. S. Avis	Royal Military College, Kingston
Dr. L. R. C. Barclay	Mount Allison University, Sackville, New Brunswick
Dr. G. Baron	University of London, England
Dr. L. E. Bourne, Jr.	University of Utah, Salt Lake City

Classification of Instructors

Full-Time Members of University Staff			69
Instructors from Affiliated Institutions			1
Guest Instructors			
<u>From Alberta</u>			
Department of Education	3		
School Systems	18		
Others	<u>21</u>	42	
<u>From Other Canadian Provinces</u>		12	
<u>From U. S. A.</u>		19	
<u>From Other Countries</u>		1	74
		<u> </u>	<u> </u>
			144

Dr. Joan Bowers	Port Credit, Ontario
Dr. Virginia Carlton	Centenary College, Shreveport, La.
Dr. Edith Dobie	University of Washington, Seattle
Miss Catherine Geary	Loyola University, Chicago
Miss Naomi Griffiths	Universite de St. Louis, St. Basile, New Brunswick
Dr. J. A. Hirabayashi	San Francisco State College
Mr. J. A. Irving	University of Toronto
Dr. A. Keppel-Jones	Queen's University, Kingston
Dr. J. S. Linnell	Sacramento State College, California
Dr. Cecilia MacDonald	University of Washington, Seattle
Dr. F. A. Miller	Dickinson College, Carlisle, Pa.
Mrs. M. S. Miller	Wilson College, Chambersburg, Pa.
Dr. I. E. Mitchell	Denison University, Granville, Ohio
Mr. L. H. Nichols	Knowlton, Quebec
Dr. H. Senior	Royal Roads, Victoria, B. C.
Miss Olga Shklanka	Mercer Island Jr. High School, Wash.
Dr. B. H. Smeaton	Los Angeles State College, California
Dr. G. W. Snelgrove	University of Saskatchewan
Mr. L. R. Sprietsma	Modesto Junior College, California
Dr. W. P. Strauss	General Beadle State Teachers College, Madison, South Dakota
Dr. H. Tennessen	University of California, Berkeley
Dr. F. F. Thompson	Royal Military College, Kingston

Dr. P. B. Waite	Dalhousie University, Halifax
Dr. W. H. Wallace	University of New Hampshire, Durham
Mr. H. V. Weekes	Ontario Agricultural College, Guelph
Dr. Mildred Wittick	Paterson State College, Wayne, New Jersey

Courses

A total of 121 courses, ten of them half-courses, were offered in the 1961 Summer Session. Use was again made of shops at Victoria Composite High School for offering courses in Industrial Arts.

In co-operation with the Canadian Linguistic Association the University again conducted, as part of the Summer Session, a special Summer School of Linguistics. A program of six courses, all carrying University credit, was offered. A total of approximately 172 course registrations were received in the six-course program.

The non-credit short course in educational leadership for school principals was given again at Concordia College during the 1961 Summer Session with 65 participants.

Size of Summer Session Classes

A definite attempt is made to control the size of Summer Session classes either by opening multiple sections in courses in much demand or by imposing quotas where specialized equipment needed for teaching is limited.

The following table shows the distribution of classes according to size in the 1961 Summer Session.

<u>Distribution of Classes According To Size</u>	
<u>Size of Class or Section</u>	<u>Frequency</u>
10 students or less	13
11 to 20 students.	38
21 to 40 students.	51
41 to 60 students.	34
61 to 80 students.	6
81 to 100 students.	3
Over 100 students.	2
Total	147

In the 1961 Summer Session, the average class size was 32 students compared with 32 in 1960 and 35 in 1959.

Concomitant Activities

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

"Summer Festival"

The "Summer Festival" of concerts, films and lectures inaugurated so auspiciously in the 1960 Summer Session by the Department of Extension was continued with equal success this year. The program included four band concerts, five other concerts which culminated in a presentation of Mozart's Requiem Mass, four outstanding films, a lecture by a prominent guest instructor, and productions of La Traviata and A Midsummer Night's Dream by the Banff School of Fine Arts.

Film Series - "Races and Religions"

The Canadian Council of Christians and Jews, Western Division, in association with the University's Division of Sociology, sponsored a special series of four films that examined racial and religious conflicts. Members of the Division of Sociology acted as discussion leaders at the film showings.

Grade XII Summer School for Teachers

Concurrently with the 1961 Summer Session the Department of Education again operated a special Grade XII Summer School for teachers with matriculation deficiencies. Approximately 370 teachers registered in the Grade XII Summer School, of whom about 23% carried one Grade XII course and one University course.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization, were given between the hours of 4:00 and 6:00 p. m. Approximately 119 teachers completed the courses this summer compared with 190 in 1960 and 180 in 1959.

Chest X-ray

A mobile TB Chest X-ray unit, provided by the Alberta Tuberculosis Association, was in operation on the Campus for three days. About 1300 persons called at the Clinic.

THE SUMMER SESSION AT CALGARY

Registration and Attendance

The advance registration for the 1961 Summer Session, Calgary, reached a total of 828. Of this number, 182 failed to attend, so that the actual enrolment amounted to 646, an increase of 146 over the estimated attendance.

Summary of Attendance

<u>Faculty or School</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Education	243	326	569
Arts and Science	29	10	39
Graduate Studies	2	-	2
Commerce	1	-	1
Household Economics	-	1	1
Agriculture	1	-	1
Special Students	11	12	23
	<u>287</u>	<u>349</u>	<u>636</u>

Instructors

The Summer Session teaching staff comprised a total of twenty-eight instructors, of which seventeen were drawn from the staff of the University of Alberta, Calgary. Three instructors were secured from affiliated institutions (St. Joseph's College, Lethbridge Junior College, and Mount Royal College). Four guest instructors whose homes were in Calgary and who had previous teaching experience at the university level were appointed. One instructor was obtained from Mount Allison University, and three from universities in the United States.

Visiting instructors from outside the Province were:

Dr. R. E. Butts	Bucknell University, Lewisburg, Penn.
Dr. R. J. Hill	University of Texas, Austin, Texas
Miss J. Jamieson	Mount Allison University, Sackville, N.B.
Glen A. Pearce	Duke University, Durham, North Carolina

Courses

A total of twenty-five courses were offered in the 1961 Summer Session, Calgary, three of which had two sections each. The courses were chosen in such a way as to make the offerings different from those offered in Edmonton, except in certain basic courses where the attendance in Calgary would not affect the offering of courses at the Summer Session in Edmonton. Naturally, some attention was given to selection of courses suited to the needs of Calgary students and also suited to the competence of Calgary instructors who volunteered to help initiate the Summer Session at Calgary. Excellent co-operation was given by all departments of the University at Calgary. When selecting courses, consideration had to be given to the elimination of Physics and Chemistry as labs were in operation such a short time that they could not be prepared for Summer Session.

Size of Summer Session Courses

A definite attempt was made to choose courses which would be likely to have a relatively high enrolment. Of the original selection of courses not one had to be dropped because of insufficient registration.

The following table shows a breakdown of classes according to size in the 1961 Summer Session.

<u>Size (class or section)</u>	<u>Frequency</u>
10 or less students	0
11 to 40 students	18
41 to 60 students	7
61 to 80 students	3
80 to 100 students	0
Over 100 students	0
	28

In the 1961 Summer Session, Calgary, the average class size was thirty-six students.

Special Events

The Department of Extension, University of Alberta, Calgary, collaborated with the Allied Arts Council, the Calgary Philharmonic Society, the Calgary Film Society and the Banff School of Fine Arts in offering a summer festival program in Calgary during July and August. This included a series of three chamber music recitals, the first of which featured Professor Quenten Doolittle, violin and Mrs. Cyril Challice, Harpsichord.

There were two Public Lectures, four unusual films selected by the Film Society. The Banff School of Fine Arts presented "La Traviata", a ballet performance and also "A Midsummer Night's Dream".

On July 17th, the Princeton Seminary Choir visited the campus and gave a performance.

For one week during the summer, publishers were invited to show their publications of interest to teachers.

As there was no gymnasium, few athletic events were possible. A part-time Co-ordinator of Recreational Activities, Miss P. Power helped to arrange a picnic, a golf tournament and casual activities.

Concomitant Activities

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Mount Royal College Summer Session for Grade XII

In Edmonton, the Department of Education offers Summer Session for teachers with matriculation deficiencies. As Mount Royal College also ran a similar Summer Session, it was agreed that teachers with one matriculation deficiency could register in that deficiency with Mount Royal College and also take one Faculty of Education course, Calgary Summer Session.

Civil Defence Courses

Parallel to the offering of these courses in Edmonton, the Alberta Emergency Measures Organization offered courses at Calgary between the hours of 3:45 and 5:20. The number of teachers accepting this opportunity was proportionate to the numbers that were enrolled in Edmonton.

REPORT OF DR. W. C. WONDERS
CHAIRMAN OF THE DIRECTORATE
OF
THE BOREAL INSTITUTE

General

The Boreal Institute suffered a major blow in its second year of operation. Funds which had been promised for its support, specifically intended to pay the Executive Director's salary, were not forthcoming at the last moment, actually after Mr. F. Clyde Lendrum had been appointed to the position. This has caused embarrassment to all parties concerned. Mr. Lendrum accepted another responsible position elsewhere in Canada but indicated in subsequent letters that he still is keenly interested in the Institute.

The Directorate had hoped that funds would be approved in the 1962-63 budget to provide for the Director. This was not the case. Indeed, the actual approved funds were reduced from \$13,830 in 1961-62 (with an additional \$15,000 originally promised from other sources), to \$12,800 for 1962-63. This has been very disappointing and the Directorate will have to change much of its basic thinking on the role of the Institute. The University is prepared to continue support "in order to provide for the salary of the librarian and funds to acquire annually books and periodicals for the development of the Institute as an information center. This would be in the amount of \$10,000 to \$12,000 annually."

During the year the President and members of the Directorate have continued their efforts to obtain additional outside funds. This task could have been performed far more effectively by a full time Director, an assessment strongly supported by Dr. John Reed, Executive Director of the Arctic Institute of North America, during his visit to the campus. Results of the first efforts have not been encouraging. There appears to be general support for the Institute but nothing tangible in the way of money has been forthcoming. One hopeful prospect however is the probability that the Institute will receive a financial grant of several thousand dollars from the federal government, along with other northern institutes. Until this is actually in our hands, the Directorate has not been prepared to decide on the method of its expenditure. Our experience this past year has made us very cautious of "promised funds". At the time this report was prepared the proposed grant had not been received, though it may arrive at any time.

The Directorate met every two weeks on the average, through the year, to discuss policy, consider library purchases, etc.

Directorate

Dr. W. C. Wonders represented the Institute at a dinner held aboard the "Homer", in honour of the Arctic Institute of North America in Montreal on October 26. He visited the Arctic Institute the following day where he was shown around most cordially, and sat in by invitation on an A. I. N. A. financing meeting for their Devon Island Expedition.

Dr. Wonders resigned as chairman of the Directorate effective June 22, in view of his departure for Sweden on sabbatical. President Johns appointed Professor R. W. Longley as new chairman. In keeping with the approved organization, two new appointments to the Directorate were made by the President, replacing Dr. Wonders and Dr. Taylor. (The vacancy resulting from the latter's resignation in 1961 was not filled during the past year.) Incoming members of the Directorate are Dr. Charles S. Brant, Assistant Professor of Anthropology and a member of the Department of Geology still to be decided. Dr. W. A. Fuller and Dr. W. D. Gainer will continue as members of the Directorate.

Staff

Miss Carrier submitted her resignation as Institute Librarian, effective May 31. In large part this was the result of her disappointment with the limited financial support for the Institute and the necessary curtailment of its original programme. We appreciate the excellent beginning which she has made in the establishment of a very good northern information centre, and regret her departure.

Mr. P. H. Connolly, B. A. (British Columbia), B. L. S. (Toronto), formerly in the Cataloguing Department of the Rutherford Library was appointed Institute Librarian, effective June 1.

Although a stenographer was available only part-time on the basis of the Institute budget, there was need for full-time service. The University Personnel Officer was able to arrange for the latter and it was appreciated.

Library

It has become increasingly apparent during this past year that a library devoted to arctic materials is particularly useful in this geographical location. For those journeying to and from the north, especially to the Mackenzie District, Edmonton is the point of arrival and departure - and a natural setting for an arctic institute. The Library has served not only students and faculty members of the University, but also government officials in the north, a teacher of an Indian School, oilmen, technicians,

doctors working on Eskimo health problems, a social worker, etc.

As far as library materials are concerned, it is evident from the accompanying statistics that the collection is barely adequate for general reference purposes, and inadequate to competently serve specialized needs, and will in fact soon require greatly increased financial support if interest in it is to be furthered and maintained. A major requisite which must be considered very shortly is that of back runs of journals - an expensive undertaking. It is, of course, most fortunate at this stage that the resources of the main University Library are close at hand and available to this staff, but with the increasing public use of the Boreal Institute Library (as opposed to student and faculty use) it is foreseeable that extensive duplication will be necessary to serve these people who cannot borrow from the University Library, necessitating a substantial budget increase.

The lack of Boreal Institute research publications for exchange purposes has had a definite limiting effect on the interchange of material, and consequently, some purchases must be made which otherwise would be complimentary. There is also certain material which can be secured only through exchange, of which we are deprived completely.

Accessions lists have been distributed quarterly and from the various queries and comments concerning them, they seem to be regarded as useful and worth continuing.

The Library has expanded to the point where two seminar rooms in the Rutherford Library are fully used, and will not provide adequate space for any longer than the coming year.

Other Activities

Members of the Directorate have been trying to bring in the Institute in their individual work on the North. One noteworthy example is a contract which Dr. Fuller has arranged between the Institute and the Northern Co-ordination and Research Centre, Department of Northern Affairs and National Resources, whereby a \$1,000 grant will be paid a graduate student working under his direction, on an analysis of game statistics of the Northwest Territories, 1929-1962.

Dr. Wonders has been able to arrange for summer employment at Giant Yellowknife Mines Ltd. of a graduate student who will be making a geographic study of Yellowknife. The approach has stressed the role of the Boreal Institute as well as the Department of Geography.

In such ways we are seeking to keep the name of the Institute to the fore.

Publications

With no funds yet for research, we can do little in publication. This is unfortunate on two scores: publication means publicity, and publication stretches our library acquisition dollars since we could increase our acquisitions through exchange.

We are trying our first experiment along these lines, at very little cost to the Institute, through issuing (in multilith form), a very rare publication discovered by Dr. Fuller and by Dr. Westerskov, which seems of sufficient importance that it should be more widely available. Translated from the original Russian, there existed only two copies in English. It has been edited and improved in its phrasing for this new version.

We are pleased to report our "Occasional Paper, Number 1", which is now "in press":

The Covering of Snow as an Integral Factor of the Environment and Its Importance in the Ecology of Mammals and Birds - A. M. Formosov - revised translation edited by W. A. Fuller - Occasional Paper No. 1 - The Boreal Institute, University of Alberta, Edmonton, 1962.

REPORT OF DIRECTOR D. B. SCOTT
OF THE
COMPUTING CENTER

Equipment

In June, 1961 the Computing Center acquired an IBM 1620 on a rental basis. This machine is 20 to 100 times faster than the LGP 30 and it has both card and paper tape input. We have also acquired ancillary equipment necessary to the operation of the 1620. Thus, during the past year, we have significantly increased our facilities for dealing with research problems by modern methods.

Also in June, 1961 the University of Alberta, Calgary acquired a tape 1620. Prior to this, a teletype connection, provided rent-free by C.N. Telegraphs, made it possible to have problems from Calgary processed on equipment in Edmonton.

For some years the Computing Center has regarded the Research Council of Alberta as entitled to assistance on the same basis as a University Department. In January, 1962 a tape 1620 was placed in the Research Council Building. This machine is regarded as part of the facilities of the Computing Center but the Research Council pays the rental cost.

Use of Equipment

(a) Edmonton

From April 1, 1961 to April 1, 1962 the LGP 30 was used for a total of 1700 hours. A single shift throughout the year is 2112 hours. Thus the LGP 30, as was expected, is not being used quite full time.

During the same 12-month period the 1620 was used during 2000 hours. Since we did not begin using the 1620 until nearly the end of June this represents a use rate of approximately 2600 hours per year - substantially in excess of one shift.

The following departments made use of the Computing Center for research purposes: Physics, Mathematics, Agricultural Engineering, Animal Science, Plant Science, Soil Science, Chemistry, Geology, Psychology, Sociology, Political Economy, Faculty of Commerce, Educational Psychology, Chemical Engineering, Civil Engineering, Mechanical Engineering and Anatomy.

Under the joint sponsorship of the Faculty of Engineering and the Computing Center a Faculty programming course was held from September 5 to September 13, 1961 with most of the members of the Engineering

Faculty in attendance. Dr. Elliot Organick, Director of the Computing Center, University of Houston was in charge of the course.

Immediately following the Faculty Course a second course for students entering the fourth year of engineering was held from September 14 to September 23, 1961. The entire facilities of the Computing Center, including personnel, were devoted to these two courses. Problems, to be solved by computer methods, were assigned in various fourth year engineering courses and these problems were then solved in the Computing Center.

(b) Calgary

The 1620 in Calgary has been used on nearly a full-shift basis. The principal users were the Departments of Mathematics and Physics with the cosmic ray program in Physics making particularly heavy demands. The Departments of Sociology, Zoology, Psychology and Civil Engineering and the Student Counselling Service will be using the Computing Center during the coming year.

Teaching

(a) Edmonton

In addition to the assistance given in the two short courses for the Faculty of Engineering, mentioned earlier, staff members offered 12 programming courses during the past year. Eight of these were offered through the Department of Extension: two by Mr. Julius, three by Mr. Adams, two by Mr. McMinn and one by Mr. Mailloux. Mr. McMinn gave a four-day seminar to members of the Faculty of Commerce and Mr. Adams, Mr. Mailloux and Miss Bielenstein each gave a course to faculty members, graduate students and some undergraduates.

Mr. Julius taught the numerical analysis course, Mathematics 458 to fourth year engineering.

A credit course, Computation 300, has been approved by the Faculty of Engineering and General Faculty Council to be given in the third year of Engineering, beginning in the Fall of 1962. This course will be taught by staff of the Computing Center.

(b) Calgary

Two programming courses were offered to faculty members and graduate and undergraduate students; one by Mr. Glockner, Department of Civil Engineering, and the other by Mr. Schrack, Department of Mathematics.

REPORT OF MR. B. B. PEEL
UNIVERSITY LIBRARIAN

Caught in the upward spiral of student enrolment and expanding graduate programs, university library statistics could only move in one direction, and that was up. On the Edmonton campus in the year under review, attendance in libraries increased by 15%, while the number of books circulated for home use was up by 22%. These increases are in sharp contrast to the levelling-off trend in last year's report. The total number of books circulated was 381,087. The Calgary library for the second year in succession recorded increases in attendance and circulation of 82% and 63% respectively. The circulation figure was 71,176.

While students studied and read library books, the library collections grew apace with about 700 books being added each week to the Edmonton collections. The rate of acceleration of acquisition programs on the two campuses was as follows: in Edmonton book expenditure was up by a third and number of accessioned volumes by two-fifths. In Calgary expenditure and volumes more than doubled in the year. The book fund in Edmonton was \$210,000; in Calgary, with gifts, it was approximately \$100,000. In any mention of a library's book or periodical funds cognizance must be taken of the steady rise in prices, and at the same time the devaluation of the Canadian dollar. In the year under review, since most of our books were imported into Canada, the devaluation lost the library several thousand dollars; the new pegged dollar rate will cost the Edmonton library about \$15,000 in book purchasing power in 1962-63.

In Edmonton in 1961-62 the Library added 34,739 accessioned volumes, 20,120 government documents, 450 reels of microfilm, 1500 microcards, 5000 microprint sheets, 3 phono-records, 2 motion pictures, and 1532 miscellaneous issues of medical journals received free through the Medical exchange. In periodical subscriptions, too, the library's holdings grew; the number of subscriptions placed increased by 28%. Between paid and gratis subscriptions, the library is now in receipt of 3555 periodical titles.

The statistics above relative to the 586 titles of various micro-materials fail to indicate the importance of this material in quantity of printed information contained or in bibliographic treasures otherwise not available to scholars working in our library. An important micro-acquisition was Selected rolls from the records of the German Foreign Ministry and Reich Chancellery covering the Weimar period. An annual subscription was placed to a micro-filming program which will in time make available to our library all books published between the years 1475 and 1700 in the British Isles, or English books published abroad. This continuing project proposes to film all available titles in Pollard and Redgrave's Short-title catalogue. . . and Wing's Supplement. Some day it may be possible, as is being done at the University of New Brunswick, to build programs of graduate study in several disciplines around this one collection of microfilm.

The Library in its acquisitions added many titles worthy of special mention, but from many are selected a few. Two important sets added were Enciclopedia italiana di scienze, lettere ed arti and Thieme-Becker's Allgemeines Lexikon der bildenden Künstler. In literature the library acquired first editions of three of Dickens' works, in parts as originally issued. The books were Master Humphrey's clock, Our mutual friend, and the Pickwick papers. Our most notable purchase was a library of first editions by, and works about, the English writer D. H. Lawrence; the acquisition of this library, formerly the property of Sir David Eccles, currently British Minister of Education, makes us the repository of one of the best Lawrence collections in Canada. More photostats of original material relating to the English poet, William Wordsworth, were sent from Dove Cottage for deposit in our library.

At the year's end the Edmonton libraries contained 266,357 accessioned volumes, an increasing library of micromaterials, and a growing collection of government documents.

Of micromaterials the Library's holdings are 9800 microtexts, 9658 microcards, and 2695 reels of microfilm. Perhaps the significance of our holdings may be made more graphic by the reminder that one sheet of microtext may contain a book, one microcard an issue of a journal, and one reel of microfilm a month of the thickest of newspapers, the New York Times.

The Calgary library added 12,060 volumes in 1961-62, an increase in acquisitions of 128%. This library subscribed to 295 additional periodicals to bring the total of subscriptions to 967 titles. The library collection has now 42,000 volumes, and is still a weak collection for the teaching program it is being called upon to support.

Of Space and Time

The rapid growth of the book collections caused book storage problems, particularly on the Edmonton campus. In the Rutherford Library additional shelving was crowded onto the stack tiers and into reading rooms. All seminar rooms on the top floor, except the two occupied by the Boreal Institute, were taken over as storage areas. While these emergency measures greatly increased the book capacity of the Rutherford Library, they seriously inconvenienced readers and library staff alike.

Other changes in space allocation in the Rutherford Library were to move the Order Department to the former Art Gallery, while the latter was squeezed into the Music Listening Room in an uneasy clash of color and sound. The map room was moved to Seminar Room 311. The Rare Book Room ceased to exist as it was needed for office space by the Periodicals Section. Rare books and Canadiana cases were crowded into the Reference Reading Room.

The Library experimented with longer hours during the year with three areas of the library open evenings during the inter-session period of May and June. The few users did not warrant continuing the experiment after the end of Summer Session. In January the opening of the Reserve Reading Room until 11:00 p. m. each week day for study purposes was justified by attendance. In February the Education Reserve Room was open in the evenings to accommodate the overflow of students studying in the main Education reading room.

Staff

On the Edmonton campus the increase in the work load averaged about 22% in public service departments and approximately 40% in the processing departments, and to cope with this fifteen persons were added to the staff. This represented a staff increase of 20%. The usual turnover of non-professional staff plagued the library, so that at the year's end 60% of this category of employee had less than ten months of service.

The following professional librarians were added to the Edmonton staff: Miss Margaret Auxier, Mr. Peter Hanlon, Mrs. Mary Ann King, Miss Frances Mielke, Miss Phyllis Morgan, Mr. Daniel Reicher, and Mrs. June Thomson. In Calgary two professionals were added to the staff, Miss Flora Macleod and Mr. Philip Rees. Unfortunately, the Library was unable to fill one vital position in the Calgary processing department, and in consequence the department was under strain all year.

Resignations from the professional staff were: Mrs. Stephanie Zmurkevych from Edmonton and Mr. Dimitri Kehaya from Calgary.

In May several members of the staff attended the Alberta Library Association Conference held in Lethbridge. Three members of the staff, Miss Dorothy Hamilton, Mr. Donald Baird and Mr. Sidney Harland, attended the Canadian Library Association Conference. The Law Librarian, Mr. Denys Noden, in June attended a Conference of American Law Librarians in Boston. The Medical Librarian, Miss Russell, was enrolled in a course in medical librarianship and bibliography at Columbia University during Summer School. In February she attended the first conference of Canadian medical librarians which had as its purpose to study the possibility of greater co-operation between medical libraries. The Chief Librarian attended a National Research Council sponsored conference on the problems connected with the dissemination of scientific information.

Library Committee and Sub-Committee

The Library Sub-Committee met eight times during the year to advise the Librarian on various problems, the most important of which was the

allocation of money to teaching departments for book purchases. During the absence of Dr. Cragg, the committee was under the chairmanship of a former member of the Committee, Dr. Rawlinson. One meeting of the Library Committee was held.

Library Administration

Through the year the Librarian and the two Assistant Librarians continued to be heavily involved in library planning, to which there would seem to be no end. The library buildings are, of course, the Research Library, the Education Building's library wing, and the Calgary campus library. Structural plans and furniture lay-outs for the Education Library were completed. For the Research Library the floor plans were completed and the exterior design was approved. In connection with planning, the Librarian visited our building consultant, Dr. Keyes D. Metcalf, in Boston in June, and participated in a Library Planning Institute held at Kent State University in July.

In the area of administration an important beginning was made in the codification of library procedures and regulations. Where once it was sufficient to communicate these orally, with the increasing complexity of our organization it has become necessary to spell out administrative rulings for the guidance of our growing and changing staff.

The library administration assumed responsibility for accounts, and for the ordering and internal distribution of supplies and equipment, tasks formerly under the Book Order Department.

Order Department

Miss Lilian Leversedge, Order Librarian, reports the year as one of readjustments made necessary by the transfer of responsibilities listed above to the Library Administration, and of the transfer of ordering and recording of periodicals to the Periodicals Section. The purpose of this library reorganization was to enable the Order Department to concentrate on book acquisitions.

The department ordered 20,576 titles during the year, an increase in title ordering of 28%. The department received through purchase 30,739 volumes which with books received as gifts totalled 32,138 volumes, representing an increase of 41%. The Order Librarian points out that standing orders for sets and series is now a commitment of \$16,000 per year, which sum was the whole book budget sixteen years ago. The backlog of out-of-print desiderata increased during the year though second-hand catalogues were constantly checked, wanted items advertised, and search lists sent to dealers.

A new system of keeping accounts of departmental expenditure was

initiated. The purchase by the department of national and subject bibliographies reflects the expanding scope, geographical and topical, of the library's collection. The Order Librarian concludes her report by emphasizing the importance of a well-planned acquisitions program.

Cataloguing Department

Mr. Daniel Reicher assumed administrative responsibility for the Cataloguing Department on September 1st, and has maintained the department's work output at a high level. The trend toward mechanization was continued with installation of an off-set printing machine and by more intensive use of electric typewriters. The clerical staff of the department produced 140,152 cards, in whole or in part. To indicate the rate at which the card file of the library's holding is growing, between four and five hundred cards are filed each work morning in the Main Catalogue.

An introductory paragraph in this report contains a statement of the quantities of books and micromaterials acquired by the Library; the cataloguing and classification of these materials to make them accessible to readers constitutes most of the work record of the Cataloguing Department. An extra task in which the department was involved during much of the summer was the alteration of catalogue records of materials transferred from the Rutherford Library to the Physical Sciences Library.

Periodicals Section

The importance of periodicals and serials, especially in university and technical libraries, has increased immeasurably since World War II. Anticipating a rapid growth in the Library's holdings of periodicals, a Periodicals Section was set up last August with the responsibility of processing requests for current subscriptions to, and back files of, periodicals, and of maintaining a centralized record of all periodicals in the library system. Mrs. June Thomson was appointed Periodicals Librarian and is succeeding in bringing our periodical holdings under bibliographic control.

As indicated earlier in this report, the Library now regularly receives 3555 current periodicals. Of this number, 851 are free subscriptions. The number of journals first received by the Library in 1961-62 was 742.

Not only is the Library under pressure to subscribe to more journals, but an increasing number of requests are received asking for purchase of early files to complete runs of frequently consulted journals. The Periodicals Section did little back-order work until the end of the year, but in future this will be an important part of the work.

The Periodicals Section is also responsible for the supervision of the Periodical Reading Room and the circulation of the journals therein. Statistics show the attendance to have been 18,377, an increase of 9%, and circulation to have been 37,060, an increase of 28%.

Binding Preparations Unit

Mr. Alan Rankin operated the Library's Binding Preparations Unit under the supervision of Mr. Baird, Assistant Librarian. During the year 6,462 volumes were sent out for binding, an increase of 45%; the break-down by type of material was 1712 books, 2236 older journals, 1516 current journals, and 996 checkbinds. In addition, 346 volumes were pambound or repaired in the Library. The volumes to be bound were sent to four local commercial binderies, as well as to the University Printing Department. Binding prices in Edmonton, which average \$6.25 per periodical volume, continue to be excessive, but it is hoped that the introduction of mechanization by one bindery will bring prices down.

Reference Department

The statistical report of this department shows a notable increase in all aspects of the work. In the 8850 reference questions asked the staff, there was a significant increase in the number of long and involved questions, mostly posed by teaching staff, which were successfully answered. Substantial increases were recorded in the numbers of books, pamphlets, theses, maps, documents, and micromaterials borrowed or consulted. More people used microfilm and microcard readers, and the Thermofax reader-printer continued to be popular with persons wanting to enlarge to full-sized pages frames of microfilm.

In a general reorganization within the Library, the Reference staff was freed of responsibility for the operation of the Periodical Reading Room and of the Bindery Unit, thus, for the first time in some years, making available professional librarians to staff the reference desk during all hours open, with the exception of three evenings of the week.

Since our library collection is small for our ambitious graduate and research programs, and since our university is so far from major library collections, Inter-Library Loan Service is important to teaching staff. The number of requests which the reference staff tried to fill by borrowing has greatly increased in recent years, and in 1961-62 was up again by 27%. The number of requests from staff and students was 1611. Loans requested by other libraries was 816, almost double those of the previous year; the increased borrowing from our library reflects the rapidly growing strength of our collection.

The Reference Department still has responsibility for the Library's document collection. The department added 16,707 documents, an increase of 67%. The number of documents received from various agencies may be of interest: Dominion government, 6641; provincial, 2159; British, 616; U.S., 1427; other foreign, 1844; U.N., 3113; other international organizations, 906. A start was made on collecting an important series when the Library Sub-Committee approved the expenditure of \$2000 per annum for the purchase of volumes of the Congressional edition of United States publications for the period 1865-1900 as volumes come on the market. An increasing effort has been made to publicize and improve the informational service to students from our growing collection.

The department added 395 pamphlets, 659 maps, and became the repository of the 139 theses presented by candidates for advanced degrees at the University's spring and fall convocations.

Miss Shirley Mooney is to be commended for her successful operation of the Department during the absence of Miss Dorothy Hamilton the Chief Reference Librarian, who was on sick leave toward the end of the year.

General Circulation Department

The Circulation Department is in charge of the circulation of books from the Main stacks and from the Reserve Reading Room.

The Circulation Librarian, Miss Freifield, states that in her department the year has been hectic, and although the staff was augmented in numbers, it could not keep up with the flood of books being borrowed or returned. This is not strange since statistics show that circulation from the main circulation desk was up 23%, and from reserve, 15%. The figures of volumes circulated were 109,794 and 45,404 respectively. An analysis of work load by library department shows that of the total circulation in our library system, 29% is from the Main Circulation Desk, and 14% from the Reserve Desk.

During the summer of 1961 the Circulation Desk was one of three library areas open in the evening during May and June. As attendance did not warrant continuing this experiment, the library closed evenings after Summer Session. During Summer Session the circulation of books was 19,729 as compared with 16,056 the previous year. During the week of August 20-26th the Circulation and Reference Departments co-operated to provide library service for a UNESCO seminar held on the campus. The Department also sent out 514 volumes to extramural students during the year. The circulation of reserve books to students enrolled in evening classes on the Edmonton campus doubled although the enrolment remained the same.

Law Library

In this reading room attendance was up by 10% to 41, 126. Circulation remained static at 12, 067, but as most of the law books are used in the library higher attendance would suggest that more intensive use was being made of the collection.

The Law Librarian, Mr. Noden, notes that in the second year of expansion of the Law collection 2844 volumes were added as compared with 1919 the previous year. The library has long been deficient in United States material, but this has been greatly remedied this year. The most outstanding acquisition was the Pacific Reporter donated by the Law Class of '51. A second major effort was directed toward improving the Library's holdings in law reviews and periodicals. Finally, at the end of the year a considerable quantity of Quebec legal material was acquired.

Medical Sciences Reading Room

The Medical Sciences Library, Miss Phyllis Russell, reports the circulation to have been 37, 628, an increase of 24%. It is significant that nearly a quarter of the circulation was to doctors on the staff and to medical practitioners, mostly in the City of Edmonton. A few books were mailed, and a number of photostats sent to practitioners scattered throughout the province.

The library staff completed the indexing of the Alberta Medical Bulletin. The periodical holdings in the medical and dental fields were carefully analyzed with a view to deciding which additional important journals should be in our collection. As a result, the Medical Library Committee recommended subscriptions to 322 additional journals of which 203 were approved for subscription by the Library Sub-Committee. The Library also added 29 additional dental journals. The library staff is assisting the Research Committee of the Faculty of Medicine to collect reprints of all journal articles by members of the faculty. Through the Medical Library Association Exchange some 1532 issues of journals were received free in order to round out our early files of medical periodicals.

Applied Science Reading Room

In this reading room, as was to be expected, the circulation statistics were affected by the transfer during the summer of chemical books and journals to the newly established Physical Sciences Reading Room. Thus, circulation was down by 15%, but attendance increased by 2%.

This reading room added to its collection some 3413 agricultural and engineering bulletins and 6568 manufacturing and engineering standards. The standards were among the notable acquisitions of the year, representing

complete sets of the standards issued by the American Standards Association and the British Standards Institute.

Mrs. Emma MacDonald, the Applied Science Librarian, undertook general supervision of the service in the new Physical Sciences Reading Room.

Physical Sciences Reading Room

Following a Library Committee decision in April, the Library began to arrange for the transfer of journals and advanced texts in Chemistry, Mathematics, and Physics to the new library. Some 2795 individual book titles and 235 journal titles were transferred during the summer and fall. Mrs. Marjorie Corah assumed charge of the new library and had it operating successfully during the winter term.

The total attendance was 29, 114, while circulation from the reading room was 4381. The figure for circulation does not indicate the full use of the collection since the material is primarily for consultation within the library.

Education Library

An analysis of circulation figures within the library system on the Edmonton campus indicates that the Education Library is responsible for the circulation of 25% of the books. The percentage increases in the Education Library, both in attendance and circulation, were higher than in any other area. Attendance was 103, 314, representing an increase of 22%, while circulation was 97, 973, an increase of 34%. In her report Miss Moira English, the Education Librarian, cites among the factors responsible for the large increases the larger enrolment in Education, the steady growth of the book collection, and a greater number of assignments which necessitate wide reading by students.

Among activities of the staff were the following: many older books were removed from the shelves and stored in cartons to alleviate the shelf crowding; the lists of enterprise books used by student teachers were revised; in May a collection of books was sent to Banff for the 1961 Short Course in Educational Administration; in July another collection was sent to Concordia College for the Leadership Course for School Principals; in September seven collections of books were sent to outside towns for the use of the evening classes; some 300 books were transferred to the Rutherford Library for the use of the Educational Administration Division which had moved to the North Campus.

Miscellaneous Services

In the provision of library service to students in the Evening Credit Program, the Library sent small collections of basic books to each of the twelve centres outside Edmonton and Calgary where courses were given.

Photostatting services filled 371 requests for 3,852 pages of photostats.

The music listening program held over the noon hour during the winter session continued to attract a capacity audience, although this year the program operated under difficulties, since the room also served as a gallery for travelling art exhibits.

CALGARY LIBRARY

Miss Dorothy Ryder in her annual report on the development of the Calgary Library sets out the great increases in the use of the library. As indicated earlier, the attendance was 279,004, and the circulation of books was 71,176. These are increases over the 1960-61 figures of 82% and 63% respectively. The statistics for library materials added, like all other Calgary statistics, show a remarkable increase. These rapid developments necessitated an expansion into additional areas of the Arts-Education Building, and an increase in staff to almost double that of the previous year. Miss Ryder and her staff are to be commended for their success in adjusting the library operations to the rapidly changing program on the Calgary campus.

The planning of a new library building entailed numerous meetings and discussions during the year. The Calgary Library Planning Sub-Committee was chaired by Professor E. M. Dodd. Plans have been completed, except for some minor details, for a five-storey library building of 110,000 square feet which is to be ready for occupancy by the fall of 1963.

The Library Committee, which is under the chairmanship of Dr. Hartland-Rowe, held twelve meetings during the year.

Staff

The library staff increased from twelve members at the beginning of the year to twenty-two at the end. The greatest staff increase was in the Processing Department. The Library experienced no difficulty in finding clerical help, but a shortage of professional librarians created an imbalance in the Processing Department which placed a heavy supervisory load on the professional staff. The department was short one cataloguer for seven months and was without an order librarian for four months.

Processing Department

Miss Elizabeth Skeith, the Processing Librarian, reports the number of books ordered and catalogued as 12,060. This compared with 5,301 volumes in 1960-61. Late in the year the Board of Governors made available a supplementary book budget, and as a result the department hired more staff and in consequence had to move into larger quarters which had formerly been occupied by the Book Store.

Serials Department

The number of new subscriptions to periodicals placed was 295 bringing the total number of current periodicals in the Library to 967. Of this latter number, 58 were complimentary or gift subscriptions.

The Library sent 1,237 volumes to be bound as compared with 908 the previous year.

Reference-Circulation Department

In July Miss Flora Macleod was appointed to take charge of public service. With the rapid growth in service this department has had to change its organizational procedures and equipment to meet the changing needs.

During the regular university session the Circulation Department was open an average of 76 3/4 hours per week.

A Summer Session was held in Calgary for the first time in 1961, but as all courses offered had been held during the regular session, the Library had a sufficient book stock to operate without undue pressure.

The number of Inter-Library Loans requested by teaching staff and graduate students was nearly five times greater than requests in 1960-61. The Library borrowed 395 volumes, and obtained photocopies for 31 requests. These figures do not include quite extensive borrowing of materials from the Rutherford Library on the Edmonton campus.

REPORT OF PROFESSOR A. A. RYAN PROVOST

Student Government

Under the stimulating leadership of Mr. Peter Hyndman, President of the Students' Union, student government maintained its traditional level of responsibility and maturity on this campus during the year.

In Calgary, the Students' Union enjoyed its first year of full independence from supervision by the Edmonton Committee on Student Affairs, and showed marked progress in all fields of activity.

Finances of the Students' Union

The Auditor's and Budget Reports of the Students' Union in Edmonton and Calgary indicated that the financial affairs of the two Students' Unions were carried out with efficiency and due attention to economy. The portion of the fees on both campuses set aside for Students' Union building expansion were increased as the result of overwhelming votes on student referendums.

Active planning has begun towards an expansion of the Students' Union Building in Edmonton, and a Students' Union Building in Calgary is part of the long range development plan.

Mr. Bryan Clarke was appointed as Assistant Business Manager in Edmonton, and Mr. Frank Stoddard as Business Manager in Calgary.

Student Activities

In his report of the year's activities, Mr. Peter Hyndman described the session as one of hard work, consolidation, appraisal, and progress. In particular, a study of the effect which an enlarged Students' Union building would have on student life was initiated.

The number and variety of student activities continued without substantial change, though the increasing enrollment has added to their complexity. In particular, the rapidly growing body of graduate students is making itself felt as a force distinct from the Students' Union.

Public Relations

Once more the major public venture of the year was Varsity Guest Weekend, which was opened by an appreciation banquet tendered to members

of the Provincial Legislature and the Civic Government. Varsity Varieties, this year on a variety show theme, played to capacity audiences in the Jubilee Auditorium, and earned almost \$7,500 towards the cost of the Weekend.

Residences

In spite of overcrowding in the residences, life continued to be well-conducted under the strong leadership of the student house committees and the wardens.

A landmark was the letting of the tenders for the first new residences to be built in fifty years. Initial construction is to consist of a complex centering on a food services building for 2,400, with the first two of three integrated residence towers to house 600 students each.

Fraternities

With the assistance of the newly formed Alumni Interfraternity Council, the policy of "dry-rushing" was firmly established and the fraternities again had a successful year of active involvement with the University community at large.

The University's decision that it must plan to expand into the Garneau area, has, however, posed housing problems for the fraternities which can only be solved with the aid of the University administration.

Discipline

It is a pleasure to report that the morale of the student body remains high, and, that no disciplinary problems have arisen which the appropriate student bodies have been unable to solve without recourse to this office.

Much credit for this state of affairs is due to Mrs. J. Grant Sparling, Dean of Women, and Major R. C. W. Hooper, Adviser to Men Students and Foreign Student Adviser, as well as to the student leaders with whom they are in constant contact.

REPORT OF MRS. J. GRANT SPARLING
DEAN OF WOMEN

For the 1961-62 session 2, 423 women students were registered and 1, 014 first year women received invitations to tea at my home. These parties serve many purposes: students from different faculties meet, an understanding is gained of other courses available, friendships are begun, the student feels herself a part of an intimate social group, and a rapport develops between her and the Dean of Women. Over four hundred women have come to the office to discuss an endless variety of concerns.

In 1961 the Dean of Women gave sixty-eight addresses to groups on the campus or in the city, and attended 187 University functions.

Two after-dinner meetings were held with the Pembina Hall and Pembina House residents, and one with the women of each Fraternity, Brescia Hall, St. Jude's and St. John's Institute. There is a close association with the wardens and house mothers of the women's residences. Their role is extremely important in providing the conditions for student development.

It is regrettable that we cannot plan on increased residence accommodation until 1964 as the general opinion is that residence adds much to student living and development. Less than 10% of the women at this University may have this enriching experience. The search for off-campus housing with adequate University study facilities becomes more arduous yearly. The enrolment is increasing. Many must find accommodation at a distance, time is lost in commuting, activity in extra-curricular events is curtailed, and the library, which should be the university centre for every student, is not readily available.

The Wauneita Society, whose membership consists of all the women at the University, had an excellent year under the Presidency of Miss Patricia Hyduk. Several innovations in programming were made, and each was so successful that it will continue as a pattern. The Society strengthened the invaluable Big and Little Sister Program and arranged for Dr. Vant's talks to first year students. The annual Wauneita "Formal" continues to be, and should be, the most gracious function of the University year. The Wauneita Lounge is no longer large enough for the women's activities and most events were conducted in two successive periods. This is not conducive to unity. We look forward to an enlarged Students' Union Building.

The three women fraternities have had an excellent year, and gave many hours of service to overall Campus activities. To the Delta Gamma's, for the fourth successive year, went the academic cup, and two of their actives have won national Delta Gamma scholarships, the first to have been won by a Canadian chapter since their inception in 1873.

There has been a close association with the religious groups on the campus. It was a privilege to attend meetings of these clubs, some of the social functions, and to give addresses, on invitation.

There are constant requests for recommendations for students entering employment, proceeding to Graduate Studies, or continuing study at other Universities, and there is an increasing number of requests for information from prospective undergraduates.

The Students' Wives Association and the Graduate Students' Wives Association consult with the Dean of Women about many areas. These wives carry a heavy responsibility as their husbands complete degree programs. The wives wish to have a close contact with the University, to share some of their husbands' interests and they have social needs which must be met as many are newcomers to the city. For many there are financial stresses and they are beset with the problem of obtaining housing which will give adequate study conditions for the husband and at the same time give a normal home life to their children.

The International women students feel a rapport and are often in the office about their social concerns -- adjusting to Canadian food, to a new language, to different dress and social customs. They wish to make friends and enter extra-curricular activities as they have periods of extreme loneliness; and there is the search for reasonable accommodation. All these factors present strains which must be shared with someone.

The health of the women has been good, and those who were bed-patients at the Infirmary received excellent nursing care by Miss Revell and her staff.

There have been no serious discipline problems in the year and the student body has given complete and mature cooperation in every area. The 1961 Engineers' Queen Committee incorporated all the 1960 Committee's recommendations. Similarly the Education Queen Campaign was well done.

REPORT OF MR. R. B. WISHART ADMINISTRATOR OF STUDENT AWARDS

The operations of this Department have followed the usual pattern this year.

We have administered the various awards controlled by the University and have co-operated with a number of donors who do their own awarding. These awards are at three levels of matriculation, undergraduate and postgraduate. Awards of a value of \$100.00 or more are approximately as follows:

	<u>Number</u>	<u>Value</u>
Matriculation	144	\$74, 850
Undergraduate	211	58, 875
Postgraduate	58	77, 650
TOTALS	413	\$232, 775

There are also a number of medals and many prizes of less than \$100.00.

During the year about 30 new awards have been offered to the University and accepted. A number of these are restricted to the new Calgary Campus which we consider both natural and quite acceptable. Against this only a few have been withdrawn. There appears to be a continued interest on the part of the public and industry in offering new awards. We were especially pleased this year to be able to offer more Intersession Bursaries to students in the Faculty of Graduate Studies.

Changes in the terms of a great many awards were effected during the year. Some of these were in the interest of clarification, some were requested by donors and some necessitated by changes in academic programs or by the fact of the expansion of the Calgary Campus.

We receive, and make available to students, information on a great many postgraduate awards in Canada, United States and the United Kingdom. In some cases we do the initial processing of applications on behalf of the donor. We have also been responsible for arrangements on such special items as the German Exchange Scholarships, the NFCUS Exchange Scholarships, and the African students brought through the African Students Foundation.

Scholarships, Grants and Loans under the Province of Alberta Students Assistance Act are initially processed by us for approval by the Board. The totals for 1961-62 were approximately as follows:

Queen Elizabeth Scholarships (Matriculation and Undergraduate)	\$150, 000
Scholarships and Fellowships (Graduate Studies)	36, 400
Grants and Bursaries	273, 500
Loans	550, 000

This assistance covered approximately 2600 students or 30% of those eligible.

In addition the Board awarded \$513, 800 in Tuition Grants of \$250 to students in the Faculty of Education. It is anticipated that there will be a gradual reduction in this special assistance to Education students.

The Administrator of Student Awards is a member of the Students Assistance Board and the co-operation between the University and the Board has been both close and effective.

We do not foresee any major changes in the function or operation of the Department in the year ahead.

REPORT OF DR. PETER P. REMPEL, ACTING DIRECTOR
STUDENT COUNSELLING SERVICES

Three voluntary study tutorials for new students were held during the fall session attended by some 350 students. A January sequence of tutorials was attended by some 170 students. In Calgary a remedial reading program was conducted which handled a standard load of 20 to 23 appointments a week, and involved a total of 40 students.

Members of the Edmonton staff participated in more than 40 career days; the counselling staff at Calgary was involved in 24 career day events, in addition to those attended in the City of Calgary.

Two panel broadcasts for prospective students were prepared by staff members for use in April and May on station C. K. U. A. In addition, Mr. Hough and Mrs. Furlong prepared a CBC TV broadcast on counselling; Dr. Rempel prepared a special talk for the educational programs broadcast over C. K. U. A.

The Director of Student Counselling Services at Calgary serves as Foreign Student Adviser for the University. This involves 20 foreign students liaison with Immigration authorities, and problems of job placement under a student visa. It also includes administration of the African Students Trust Fund.

The Calgary office now provides an IBM test-scoring-service for the University as a whole. This service was used to score all freshmen tests for Edmonton, Calgary, Camrose and Lethbridge. It has encouraged the use of objective tests in the academic program. Routine item analysis is also available and has been used both for research projects and for academic courses.

Staff changes include the following: Mrs. Furlong resigned her position which has been filled by Miss Diane Dale, M. A. Mr. Vander Well has been appointed Assistant Professor in the Division of Educational Psychology. All staff members, with the exception of Mrs. Furlong, were teaching academic courses.

A total of 2870 individual counselling interviews were granted at Edmonton. The corresponding figure for Calgary was 1285.

A revision of the Professional Outlines is in progress.

REPORT OF DR. J. F. ELLIOTT, DIRECTOR STUDENT HEALTH SERVICE

The number of student visits to the Infirmary increased by 20% to nearly 30,000 during the 1961-62 session. The daily average was 98 patients, with a peak load of about 350 student visits. There were 177 students requiring confinement to bed for a total of 617 hospital days.

This increased volume required the supplementation of our regular staff with 4 consultants in medicine from the University Hospital who attended the Infirmary for half days weekly.

Dr. Stanley Greenhill has acted as Chairman of the Health Services Committee and has contributed much to the overall expansion and planning of the new building. This spring he has also joined the staff as consultant.

Dr. Hutton continued to act as gynecological consultant, attending about 20% more female patients than last year.

The system of annual physical examinations was changed this year. The greater number of first year enrolments has made it increasingly difficult to complete the freshman medical examinations during registration week so this method has been replaced by pre-registration examinations carried out by the students' family doctor. A total of 4,374 freshman medical forms were reviewed at the beginning of the session and students with medical problems were called to the Infirmary for assessment.

In co-operation with the Faculty of Education, a program was carried out this year of giving all final year education students tuberculin tests before graduation.

Consultations with psychiatrists increased by almost 100%.

A long required position on the staff was filled this year with the appointment of Mrs. J. J. Strynadka as stenographer-receptionist, which has been a very great assistance.

Miss Revell and her nursing staff have given their usual excellent service, on which the Student Health Services have relied for so many years.

Much work has been done, particularly by Dr. Greenhill and Dr. Sherbaniuk on plans and equipment for the new Health Services Building. This is well under way and will be completed and ready for occupancy in the fall. With the increase in facilities, and with increasing staff, it is hoped that continued high-quality and faster service will be available to our students next term, with provision of medical care, consultation, laboratory and X-ray services, and medications.

REPORT OF MR. GUY VAUGHAN RADIO DIRECTOR

Music

Broadcasting for the year 1961-62 was for the period October 2, 1961 to April 30, 1962.

The same broadcasting hours as in the 1959-60 season were utilized - 6:45 to 8:00 p. m., Monday through Friday, and 8:00 to 9:00 p. m. on Saturdays. For the remainder of the year, programs of recorded music were broadcast one hour per day, six days per week.

From May 1, 1961 to April 30, 1962, two hundred and sixty recorded Music Hours were broadcast as well as 52 Saturday Evening Concerts, making a total of 312 hour-long music broadcasts during the year.

Following the pattern of 1960-61, Organ Recitals were broadcast once per month during 1961-62 and were included on the last Tuesday in each month in the regular Music Hour period, that is, from 7:20 to 7:45 p. m. There were seven Organ Recitals during 1961-62.

There were 13 Western Board of Music Recitals during 1961-62. These were aired from 5:30 to 6:00 p. m. on Saturday afternoons.

Talks Series

During the current season 134 15-minute programs of talks were aired. Of these regular series, Science had 39, Social Science 28, Men and Letters 24, Two on the Aisle 22, and Extension 13. The remaining programs consisted of the following groups - Education 4, Campus Preview 2, and Miscellaneous 2.

Highlights of the 39 Science programs were various series like Highlights of the Plant Kingdom (4), Science in Space (3), Sources of Energy (2), and Radioactive Fallout (2).

In the Social Science programs, the Departments of Political Economy, History, Psychology and Philosophy were responsible for the following noteworthy series - The Meaning of Freedom (4), Parliamentary Procedure (4), Sociological Problems (3), and A City for the Motor Age (2).

In the English Department Series, Men and Letters, the following programs proved popular: 2 satires, Catch That Cliche and Space-Travel, Watch Your Language (3), Shakespeare on the Screen (1), and The Law in Recent American Novels (1).

The program, Two on the Aisle, offering critical opinion of professional music and drama in Edmonton, as well as noteworthy current movies, continued to find a ready audience.

The Extension Department was responsible for a series of 13 programs under the general heading "Understanding Ourselves and Our Society." The series was intended to indicate in terms meaningful to the layman just what contributions are being made today in the fields of Philosophy, Psychology and Sociology towards a better understanding of ourselves and our society.

As is customary each year, two 15-minute programs dealing with matters of interest to prospective students, were also broadcast. These programs, under the general title, Campus Preview, were arranged and aired by staff members of the Students' Counselling Service, and will be forwarded to other Alberta stations for rebroadcast.

In addition to the above, during the month of April 1962, four 15-minute programs on educational topics, arranged by the Faculty of Education, were broadcast.

Panel Discussions

For the first time, during the 1961-62 season, a series of 30 weekly Panel Discussions (commencing on October 4th) were broadcast from 10:30 to 11:30 p.m. over CKUA. Both Professors and Graduate Students took part in the series, in which a wide variety of subjects was covered.

Daytime Programs Over CKUA

The experiment successfully launched in 1957-58 of repeating some of the University's best talks of the regular evening series during the daytime period, was continued during the 1961-62 season. Forty talks were rebroadcast daily from 2:00 to 2:15 p.m. for the period April 16th to June 15th, 1962. Results as in previous years were gratifying, thanks to the generous cooperation of the management of CKUA.

Students' Radio Society

Due to the experience gained by the personnel of Radio Society, weekly broadcasting over CKUA by Radio Society was resumed this year. Both the personnel and the program material indicated clearly the wisdom of the previous year's policy, namely, the training (intra-murally) of new personnel to fit the various sections of the Society.

CFRN-TV

During the summer months of 1961 in addition to the radio series, the Radio Director made arrangements with the management of CFRN-TV for a series of weekly telecasts (on Sunday afternoons) featuring individual Professors in Lecture style and Panel Discussions by four Graduate Students in the proportion of three individual telecasts and one Panel Discussion.

CBXT

In the matter of CBXT programs, Mr. Charles Ritchie of the Extension Department was responsible for the TV University programs telecast by CBXT during the period October to December, 1961.

From January 1962 onwards, acting on instructions from the University Broadcasting Committee, the Radio Director was made responsible for University programs telecast by CBXT, as well as for CFRN-TV.

After a short period of adjustment between the University and the CBC in the matter of program selection, a series of telecasts covering as many departments of the University as possible was agreed upon.

REPORT OF PROFESSOR R. S. EATON
OF THE
WESTERN BOARD OF MUSIC IN ALBERTA

Statistics (Candidates and Fees)

<u>Candidates</u>	<u>February</u>	<u>May</u>	<u>June</u>	<u>Total</u>
Practical	261		1307	1568
Theoretical	551	651		1202
				2770

Fees

February	\$ 2, 892.75
May and June	8, 943.00
	\$ 11, 835.75

This shows an increase of 86 candidates and an increase in fees of \$2, 009.25.

Revenue from the Sale of Theory Papers

December 1, 1960 to November 30, 1961 - \$148.01.

1961 Centres

(a) Practical

February: (4) Edmonton, Calgary, Lethbridge and Red Deer.

June: (29) Beaverlodge, Berwyn, Blairmore, Bonnyville, Bowden, CALGARY, Castor, Chauvin, Coleman, Dawson Creek, Donnelly, EDMONTON, Falher, Girouxville, Glendon, Grande Prairie, Innisfail, LETHBRIDGE, McLennan, Peace River, Pincher Creek, Ponoka, RED DEER, Rycroft, St. Paul, Sexsmith, Sundre, Three Hills and Wetaskiwin.

(b) Theoretical

February: 49 centres

May: 47 centres.

1961 Examiners for Practical Examinations

February: Mrs. Dorothy Hare, Portland, Ore.; Mrs. Helen Sherry, Saskatoon; Mrs. Marguerite Marzantowicz, Mr. Robert Stangeland, Mr. Thomas Rolston, Mr. Alan Smith and Mr. G. K. Greene, all of Edmonton.

June: Mr. Edward Lincoln, Winnipeg; Mrs. Phylis Inglis, Vancouver; Mr. Quentin Doolittle, Dr. Frank Churchley, Mrs. M. Fenwick and Mr. Leonard Leacock - of Calgary; Mr. Robert Stangeland, Capt. E. R. Wragg, Mr. Ernest Dalwood, Mr. Hugh Bancroft, Mr. G. K. Greene, Mrs. D. Langmo, Mr. Robert Pounder and Mr. Jean-Pierre Vetter, all of Edmonton.

1961 Diplomas GrantedSpring Convocation

L. Mus. (Piano):	Kathleen Lynne Newcombe*
A. Mus. (Piano):	Father Wolfgang Bottenberg* Louise Antoinette Dupuis Janet Clark Hunt
(Singing):	Isobel Patricia Clowes* Eileen Allwood Turner* Erin Louise Wood
(Organ):	Patricia Olcen Toombs

Fall Convocation

A. Mus. (Piano):	Patricia Mae Colvin Mary Nan Dutka Maria Wong
(Singing):	Karen Olsen

* Names marked with an asterisk are B. Mus. graduates

Broadcasting (from January 8, 1961, to March 26, 1961)

The time of the broadcasts of music illustrating the Western Board syllabus remained at 2:30 p. m. Sunday afternoons, as that time had proved popular with the music teachers.

Miss Vivienne Rowley began the series on January 8th with a piano

recital and was followed on the 15th by Mrs. Zonia Johnson, violinist. Mrs. Jocelyn Pritchard, pianist, gave the program on the 22nd and Mr. Alan Clarke, flutist, accompanied by Mrs. Thelma O'Neill, on the 29th.

In February, on the 5th, Miss Lynne Flewwelling, gave a piano program and on the 12th, Mr. Leonard Whiteley illustrated the trumpet syllabus. Miss Lynne Newcombe played piano compositions on the 19th and Mr. Ernest Dalwood completed the February broadcasts on the 26th with a clarinet program.

Mrs. Elizabeth Stangeland, soprano, began the March recitals on the 5th, her songs being accompanied by Mr. Robert Stangeland, who also gave a program of piano works on the 12th. A week later, Mr. Arthur Crighton illustrated the organ syllabus and he also accompanied the soloists in January and February for violin, clarinet and trumpet. For the last broadcast of the season, Miss Anne Burrows played compositions from the piano syllabus.

Recitals

Recitals this year were well attended and the completion of the new Dunvegan bridge increased the attendance at the Grande Prairie concert on November 3rd. This recital initiated the series with Patricia Colvin of Calgary playing as guest artist and Mr. Arthur Crighton of the Music Division acting as chairman. Miss Colvin, winner of the 1961 gold medal (Piano, A. Mus.) is now a student in the B. Mus. program at the University in Edmonton.

The next recital was in Red Deer on November 10th with Mr. Robert Stangeland, another member of the Music Division staff, as chairman and Mr. Cameron Ross, baritone, singing as guest artist.

Mr. Eaton was chairman of the programs in Lethbridge, Calgary, and Edmonton on November 17th, 24th and December 1st, respectively. Guest artist in Lethbridge was Lance Camp of Calgary, winner of the silver medal for Grade 10 piano. For the Calgary recital, Evan Verchomin, Edmonton, winner of the silver medal for viola, Grade 10, played as guest artist. For the Edmonton concert, Christine Kheong, a young pianist, motored up from Calgary and gave a very fine performance as guest performer.

Guest speakers for the recitals were as follows:

Grande Prairie	-	Mr. M. W. Howey
Red Deer	-	Mrs. M. L. McCullough
Lethbridge	-	Dr. Hugh Arnold
Calgary	-	Professor Quentin Doolittle
Edmonton	-	Mr. Peter Lazarowich

1961 AwardsScholarships, Bursaries, Prizes and Medals

The value of awards this year exceeded \$5,000.00.

There was no suitable candidate for the fine Peabody String Scholarship and the Banff School of Fine Arts tuition bursary was not awarded. All of the other awards were given with the usual exception - one or two withheld because of too low marks. The Northern Concert Society did not offer their bursary in 1961.

New Awards

The Wetaskiwin Musical Club - a bursary of \$25.00.

The Canadian Legion (Grimshaw Branch #253) Ladies Auxiliary - Prizes totalling \$25.00.

The Fred M. Gee Memorial Scholarship of \$100.00 was revived.

The Provincial Government increased its one thousand dollars (ten bursaries of \$100.00 each) by two hundred, and twelve candidates received these bursaries.

Gift

Twenty-five dollars was given to us in November by Robinson and Sons towards the setting up of a new trumpet and horn syllabus. The money is to be used for the purchase of trumpet and horn music that may be used in these syllabi.

REPORT OF MR. A. G. MARKLE
ALUMNI EXECUTIVE SECRETARY

Alumni Association

There are 23,842 members of Convocation and it is the responsibility of the Association and the central office to maintain contact and communication with as many of them as possible. The most satisfactory medium for doing this is "The New Trail", a quarterly University and Alumni publication, produced by the Alumni Executive Secretary and printed on the campus. Close to 20,000 copies of the magazine were mailed to graduates, University staff and Friends of the University in 1961-62.

The largest part of the Alumni Association program is given over annually to The Alumni Fund. From April 1st, 1961, to March 31st, 1962, 2,016 alumni contributed a total of \$20,177.09 to the Fund. Of this, (after programming expenses had been met), \$10,000 was assigned as an alumni contribution to student residences on the Edmonton campus (the alumni commitment is for \$100,000, payable over a period of ten years); and \$3,000 was assigned as intersession bursary money for graduate students. Total money contributions to the University since The Alumni Fund was initiated in 1959 have reached \$45,622.

In the field the Association is assisted by 15 alumni branches and local committees who undertake varying programs under the direction of their own appointed or elected executives.

Press Bureau

The operations of the Bureau are centered in the Alumni Office. Its program is directed by the Alumni Executive Secretary. The purpose of the Bureau is to serve as a clearing-house for news stories emanating from the campus and designed to reach all news media.

During the past year the Bureau has been responsible for the assembly and dispatch of seventy news releases complete with pictures. Special help has been given in the field of publicity at the time of Spring and Fall Convocations. The director of the Bureau has been called on from time to time to assist with promotional programs in connection with official openings of buildings and reporting of unusual research. Most calls of a public relations nature are funnelled through the Press Bureau office. Requests from outside for information about the University are referred to this office.

An experiment in internal staff communication was continued last

year. The director produced a monthly "Staff Calendar". In addition, general University notices and announcements of public interest were circulated through the Bureau because of the availability of comprehensive addressograph equipment.

REPORT OF LT. CDR. R. S. VAN ALSTINE, RCN(R)
COMMANDING OFFICER
UNIVERSITY NAVAL TRAINING DIVISION

The Fall recruiting program was very successful. Twelve students were attested as UNTD Probationary Cadets, thereby filling our authorized quota. One candidate received the rating of "Superior" and the others were rated "Acceptable". One application was received for the Regular Officer Training Plan. Generally, the calibre of the candidates was good and no difficulties were encountered.

Instruction in the winter training program of the UNTD was enhanced by lectures by several officers from the parent Division Active and Emergency Lists. Training facilities at HMCS NONSUCH continue to be excellent. Cadet attendance at drills has been in excess of 93%. Only eight cadets failed a course, and all of these were successful on the supplemental examination.

The success of ROTP and CTP Cadets during their winter training has been good. Of the one First Year ROTP and two Second Year CTP Cadets, none failed courses at university or in the Service. Three First Year UNTD Cadets applied for transfer to the Regular Officer Training Plan. One was successful.

A special drill on the rifle range at HMCS NONSUCH was held for instruction and practice in the use of firearms. Next year it is hoped that this type of drill will be more frequent. The social event of the year was the annual Tri-Service Ball at Griesbach Barracks in January. The Commanding Officer, HMCS NONSUCH, inspected the University Naval Training Division in February, 1962.

REPORT OF A/LT. CDR. T. DENTON, RCN(R)
COMMANDING OFFICER
UNIVERSITY NAVAL TRAINING DIVISION (Calgary)

The recruiting campaign resulted in eight successful applicants being attested as Probationary Cadets. The Board for the selection of UNTD Probationary Cadets to be promoted to Cadet RCNR was convened on 18 January, 1962. All eight candidates presented to the Board were recommended for promotion.

Winter training for second year UNTD and ROTP Cadets proceeded satisfactorily. Second Year Cadets were examined in eight subjects, five of the six cadets failed in one subject. Winter Training for first year cadets was less than satisfactory because of the high percentage of "late Joiners" and the limited size and staff of this UNTD. One second year UNTD cadet

was released because of non-attendance at University this year. Two first year cadets have been released upon their own request. This UNTD has been called upon to train only two second year ROTP cadets. Their training has progressed satisfactorily. There were no applications by UNTD cadets for transfer to ROTP.

Relations with the University are most satisfactory, and we have been afforded the best of co-operation. The press, radio and T. V. coverage of our affairs has also been excellent. From slow beginnings occasioned by the youth of this UNTD and its small size, the social life has improved considerably. Some cadets were able to journey to Edmonton to participate in the annual Tri-Service Ball. In April, cadets from the three services held a most successful Tri-Service Mess Dinner. Morale of the cadets continues to show improvement with the continued growth of this UNTD.

REPORT OF LT. COL. C. HEATH
COMMANDING OFFICER
UNIVERSITY OF ALBERTA CONTINGENT
CANADIAN OFFICERS TRAINING CORPS

The highlight of the past year was the approval by the University Board of Governors for the construction of the Armed Forces building on the Campus, thus terminating the difficult period of operating from inadequate and at times sub-standard facilities.

In response to a combined request from the three campus service units, authority has been granted by the Department of National Defence to change the operation of the COTC Officers' Mess from a single unit facility to one administered jointly by the Navy, Army and Air Force. The Army has been designated as the unit administratively responsible for this newly formed institute.

COTC Recruiting

Response to this years recruiting efforts was generally good. The Contingent enlisted nineteen out of a total of twenty-six acceptable applicants in Edmonton. The Calgary section now stands at ten. The Contingent was honoured this year with the appointment of Brigadier WS Ziegler as its Honorary Colonel. In addition, Major WAD Burns was promoted to that rank in April 1961 and the RSO (Army) Capt. RD Gross was replaced by Capt. HJP Tscharke. Lt. JM Johnston was attached for employment at Calgary aided by Lt. DH Searle, and Lt. JD Neilson was attached at Edmonton. The Contingent strength overall was one hundred.

Training

As first phase COTC quotas were filled early in the training year, the majority of the new candidates were able to complete the bulk of the theoretical phase. Instructional assistance was provided by the Regular Army and Militia thus adding variety to the program. Theoretical training culminated with the annual Contingent Inspection by Brig JS Ross, Commander of Alberta Area.

O/Cdt MG McRae, a dental student on the campus, won the Canadian Infantry Association Trophy as the best cadet during practical phase training at the Royal Canadian School of Infantry, Camp Borden.

Social Activities

The Contingent held two very successful Mess Dinners at the Western Command Officers' Mess, and made all arrangements for the annual Tri-Service Ball. The second mess dinner and the ball were attended by personnel from Calgary.

REPORT OF W/C B. E. RIEDEL, CD
COMMANDING OFFICER
#107 UNIVERSITY OF ALBERTA SQUADRON , RCAF

The University squadron has continued to be an effective unit of the Royal Canadian Air Force during the 1961-62 University year.

The recruitment program in the fall of 1961 was particularly gratifying and the unit strength was increased to an all time high of 115. At this point this squadron is the largest of the squadrons situated at Universities in Canada. Of this strength 53 were enrolled in the Regular Officer Training Plan, 9 were enrolled in the University Medical Subsidization Plan, 11 were Serving Airmen and the balance of 42 were enrolled in the University Reserve Training Plan.

In the spring of 1962 20 ROTP graduated and joined the regular force. Those that became pilots numbered 3, there were 4 navigators and 12 were technical and 1 medical officer. A total of 9 URTP graduated and were placed on the Supplementary reserve as Flying Officers. Two of these subsequently joined the regular force.

Highlights during the year included two mess dinners, the Tri-Service Military Ball held at Western Command Headquarters, as well as a tri-service smoker and a memorial day service held in Convocation Hall.

The regular training program was conducted for all years and was considered successful. Facilities were minimal and certain aspects of training were impossible. It is anticipated that in the coming year the new Armed Forces Building will be completed and a much more satisfactory situation will prevail.

The staff of primary reserve officers consisted of S/L AB Crighton, Associate Professor of Music, F/L DF Blackley, Professor History, F/L AD Cairns, University Registrar and F/L FR Anton, Associate Professor of Political Economy at the University of Alberta, Calgary. Supporting the unit were the Resident Staff Officer, F/L TW Pearce and the clerk, Corporal Currie.

The annual Reserve Officers School was held at RCAF Station Centralia. S/L Crighton served as Course Control Officer at that school. All of the first year cadets were in attendance at this camp during May and June. Cadets of all years were employed with the RCAF during the Summer. There were 3 cadets posted to RCAF units in Europe for this period. One of these has been accepted and has elected to attend the University of Paris during the coming year.

REPORT OF MR. D. D. CAMPBELL, DIRECTOR
OF THE
DEPARTMENT OF EXTENSION

I have pleasure in presenting the forty-ninth report on the development of the Extension service of the University during the year. Conceived as a means of sharing the resources of the University with a large number of citizens who would never become its full-time students, University Extension proffers the resources of the University to the community in a variety of opportunities for continuing learning. The role of the Department in this is, as it were, that of a catalyst between the University and the public.

Not only through its Extension program but through a wide variety of services to the public by all members of the University staff, the University fulfills this role. Members of the various faculties have prepared and given lectures at various parts in the province and throughout Canada. They have undertaken radio and television broadcasts of many kinds, acted as advisers and consultants through community organizations and, through the preparation of bulletins and papers, have interpreted the results of their research to the University's constituency.

Continuing education, although it may be defined in a variety of ways, may be said to have as its purpose three central objectives. It is intended to prepare adults better to earn a living in the changing economy and society in which they live. Continuing education has a central purpose to fulfill in providing the framework through which the alert adult can draw on his cultural heritage, to gain those insights from philosophy, from the arts, from the social sciences, from language and literature, which deepen and broaden one's experience of life. And finally, adult education must serve to strengthen the idea of the democratic process and to provide those skills and understandings which better equip the citizen to assume those responsibilities which are his.

The report which follows illustrates the direction of the Extension activities of the University as related to these purposes in its sections on liberal education, business, professional and vocational education, continuing education in the fine arts and community organization programs.

Liberal Education

In its essential function, the university is a storehouse and transmitter of the cultural heritage of man. Access to this storehouse of knowledge is the student's opportunity to broaden his horizons, sharpen his curiosity and deepen his perception and adding to his capacity, rich in experience and understanding.

The function of University Extension is to provide the most appropriate framework through which the citizens of the province can share in the intellectual resources of their university. The high school certificate or the university degree mark the beginnings of an education, but it is through the process of continuing education that these beginnings are realized.

The University evening class program has been centered in Edmonton, Calgary and Lethbridge, with smaller offerings of courses in Red Deer and Westlock. In the main, the classes have been organized on a lecture-discussion basis. Increasingly, however, the availability of study-discussion materials makes possible small group seminars in which emphasis is put on the student's contribution and in a closer teacher-student relationship. For the most part, these classes provide an introduction to a subject. Increasingly, the resources of the Extension Library in books, periodicals and reference work and those of the Visual Instruction Division, graphic materials, films, slides and strips, are integrated within the program.

An interesting aspect of the liberal education program was the organization during the year, through the cooperation of the Edmonton Public School Board, the Edmonton Separate School Board, the West Jasper Place School Division and the St. Albert School Division No. 3, of a series of seminars in Physics, Mathematics, Biology, English, Social Sciences, Modern Languages and Business Management. The purpose of this program was to introduce selected Grade XI and XII students to university studies under faculty members on the campus. The project comprised a lecture series in each of the above subject areas followed by laboratory workshops in which small groups of students worked with University faculty members and staff members of the Alberta Research Council in experimentation with counter-current solvent extractors, synthesis of organic materials, hydrometallurgical processes, gas chromatography apparatus, evolution of fossil buffalo, design of a wheat pipeline, methods of finding oilfields, crystal structures, Aquifer model, computer design of rocket combustion chamber.

The stimulus provided by the instructor and the opportunity to participate in classroom discussion is important to the adult student. Equally important is the provision of appropriate text materials and readings necessary to enable him to pursue the subject independently. Special attention has been paid during the year to searching out the text books and indicating the reference material necessary for the student who is to continue his reading in the subject. Members of the staff too, have given a good deal of time to studying ways and means in which, through directed reading courses, correspondence courses and technical facilities such as programmed learning, recording tapes, records and the like, can be employed to provide opportunities in continuing education to Albertans remote from the campus.

The University, because it is the intellectual storehouse for the community and because it has a special place in society, has, we believe, a role of special importance in public affairs. As objective and independent observers of the political world, university faculty members have a role of exceptional importance to play in providing informed comment on public issues. University Extension as well has a special responsibility in the development of continuing education opportunities which will bring the student and the expert observer together.

A small beginning has been made in Extension course work with a series of seminars in World Politics, Race and Politics in Africa, Issues in Canadian Politics, Issues in Canadian Foreign Policy, Totalitarianism and Democracy, Introduction to Soviet Politics. Each of these provides opportunity for ample student participation and requires careful preparation by the students themselves.

Business, Professional and Vocational Education

In an age of rapid technological change, the need for continuing education in the professions is obvious. Evidence of the concern of professional groups for continuing education is everywhere at hand. Continuing education in medicine, in pharmacy, in dentistry, in education, is well established. Business and industry are well aware of the implications of technological changes and are increasingly interested in further education opportunities for their staffs. An important function of University Extension, working together with the university faculty concerned, is the provision of refresher training to persons in the professions and those in business and industry.

The largest grouping of courses of professional training noted in this report are those in Accounting and related subjects offered in conjunction with the Society of Industrial and Cost Accountants of Alberta. They comprise thirty-four courses in Accounting, Industrial Legislation, Managerial Statistics, Industrial Organization and Management, and Report Writing. One thousand, one hundred and seventy students were registered in this lecture program in Edmonton and Calgary.

In conjunction with the School of Nursing, a series of refresher courses for nurses was arranged in Edmonton and Calgary in 'The Care of Premature Infants', 'Child Growth and Development', 'Maternal and Child Health'.

For professional agriculturalists, a course, 'Airphoto Interpretation in Agriculture' was arranged in conjunction with the Faculty of Agriculture. Similarly, a feed industry conference, a series of refresher courses for professional agrologists in animal science and soil science, a refresher course for beekeepers, in cooperation with the Alberta Department of Agriculture, and a series of farm finance conferences in Edmonton, Calgary

and Grande Prairie were arranged during the year.

A wide variety of courses is offered to persons in business and industry. Responsibility for planning and developing the respective programs is typically that of representatives of the business and industrial community, staff members of the Faculty of Commerce and the Department of Extension. These courses include training in the field of human relations, communication and supervision, sales organization and management, labour relations, and occasional special subjects such as 'Applications of Oil and Gas Law'. Many of these courses are offered on an intensive basis involving week-long or two week-long sessions, morning, afternoon and evening.

A successful development during the year has been the initiation of a Management Development Program designed to provide an introduction to management principles and practice. The program comprises six subject areas including Managerial Accounting, Canadian Economic Development, Business Organization and Administration, Business Finance, Personnel Administration, Commercial Law, Marketing and Production Management. For the most part, students are drawn from middle management levels with a modal age of approximately thirty-five. Assistance in the development of the program and in staffing comes from the Faculty of Commerce and the Department of Political Economy. The total registration in this program in Edmonton and in Calgary in its first year was 276.

The work in Public Administration Training involves the preparation of lesson materials which are dispatched on a correspondence basis and followed up with regular field seminars by experts in the field. This program, organized in cooperation with the Department of Municipal Affairs of the government of the province of Alberta, the Alberta Association of Municipal Districts, the Alberta Association of Municipal District Secretary Treasurers, the Union of Alberta Municipalities, the Association of Assessing Officers of Alberta, the Alberta School Trustees Association, the Alberta School Secretaries Association, the Faculty of Education and the Department of Political Science, was formulated with the assistance of a series of Advisory Committees drawn from these organizations. Currently, the four year certificate program in Municipal Administration, Municipal Assessment and School Business Administration are offered with registrations of 80, 105 and 28 respectively. Field seminars are held every three or four weeks at Vermilion, Edmonton, Red Deer, Calgary, Lethbridge, Fairview and Grand Prairie.

Certificate courses in the fields of Personnel Administration and Real Estate are also offered in both Edmonton and Calgary, again with the cooperation and assistance of the provincial associations. In each case, considerable assistance comes from an Advisory Committee drawn from the Alberta Personnel Association and the Alberta Real Estate Association.

Community Organization

It is not unexpected that organizations in the community should turn to the University for assistance in establishing continuing education programs, for advice in the development of their organization and for aid in focusing membership attention on important public issues.

Particularly with the farm organizations of this province, the relations of the University have been very close. These organizations are concerned with the development of leadership potential within their ranks, thus enabling their members to study problems of importance to them and, in general, encouraging the continuing education of their members.

The Department of Extension has worked closely with these organizations in the planning and development of leadership courses. Much staff time has been given on an informal basis to consultation with them on their organization's operation and program.

The Annual Farm Young People's Week, this year on the forty-fourth occasion, provided an opportunity to one hundred and twenty-five young Albertans to visit their University to receive instruction at the hands of faculty members and to gain a better perspective of their industry. The three residential courses in Leadership Techniques, Rural Leadership and the Western Canadian Farm Leaders' Conference are devised for leaders and potential leaders within the farm organizations. They offer practice in the mechanics of parliamentary procedure, group discussion, chairmanship, public speaking and report writing. What is more important, they provide an opportunity to these students to study the Canadian economy and the place of their industry in it, the nature of the society in which they live and the social, political and economic nature of the Canadian community in which they live. Each of these residential courses, of one or two weeks duration, makes a splendid contribution to the development of informed and knowledgeable citizens in rural Alberta.

The Department of Extension has taken some considerable responsibility for the integration of continuing education efforts in this province through the Alberta Adult Education Conference annual meeting, the purpose of which is to focus attention on problems of continuing education. This year, at the request of the Indian and Northern Health Services, the Department made itself responsible for two intensive short courses on the 'Native Peoples of Canada'.

A considerable amount of staff time has been given to community and provincial organizations who have asked for assistance in program planning, organization administration, training problems within the organization, member relationships and the like. This is an important contribution of staff members of the Department and to an increasing degree, members of the staff are being called on for these consulting services.

Continuing Education in the Fine Arts

For many adults, the fine arts are a key which opens the doors towards their continuing education and personal development. With brush in hand and a canvas before him, the student becomes acquainted with the nature of beauty and more sensitive and understanding of classic and modern works of art. As a member of a drama group, on whatever side of the foot-lights he works, or as a member of a choral group, he cannot fail but derive a more genuine and useful insight into the work being studied, the playwright's or the composer's intentions and something of his philosophy.

The function of the fine arts division of the Department of Extension has been to provide leadership in the development of the arts in this province, to provide opportunities for adults to receive instruction in the techniques of that art and through visual materials, books, concerts and lectures, to develop his understanding and appreciation.

The continuing education program in painting has been carried on through the Community Art Classes which functioned in 37 centres and enrolled 714 students. Instruction is provided by members of the University staff and by provincial artists engaged for the purpose. The curriculum is developed in consultation with the Department of Fine Arts. Senior students in these classes are given the opportunity to attend an intensive week-long short course in the spring of the year. This year the instructor was Professor Gordon Smith of the University of British Columbia.

In Edmonton, twenty-two classes in Portrait Painting, Fundamentals of Painting, Life Painting, Landscape Painting, Principles of Design and Composition were offered to 380 students. During this year, special attention has been given to organizing course work in such a way as to offer maximum assistance to the adult student in the development of his painting skill.

During the year, the Extension classes reached out to the communities of Yellowknife and Hay River in the N. W. T. and Dawson City in the Yukon Territories.

The chief emphasis of the Extension program in music has been in choir training. The purpose of these refresher courses of twenty or more hours duration is to broaden the skill of choral leaders and, at the same time, provide an opportunity for choir members to learn and to appreciate new levels of choral literature.

Choral workshops for groups of about forty persons were arranged in nine communities. A vocal workshop was organized in Vulcan, under the instruction of Mrs. E. Higgin. A series of chamber music coaching sessions, under the direction of the distinguished pianist, Ross Pratt, was scheduled in Edmonton and a master class in piano was organized in

Grande Prairie. Throughout the year, a series of lecture-recitals by distinguished musicians was offered in Convocation Hall. A highlight of the Extension program during the summer, the Summer Festival, was organized to include recitals by individual artists, including members of the University staff, string groups, choral concerts under the direction of G. K. Greene and a series of outstanding motion pictures. Total attendance at the Festival, which is made possible by kind assistance from the Edmonton Symphony Society, through the Canada Council, was 3,472.

The work of the Extension Specialist in Drama has emphasized assistance to small groups through instruction in acting, directing and production. Courses in Speech, Acting and Production were offered in Edmonton, Coaldale and Red Deer. Considerable assistance was given to rehearsals and productions in Edmonton, Calgary, Vulcan and St. Albert. The Extension Specialist in Drama has made a significant contribution through the Alberta Drama League, to the development of the theatre in Alberta and as well, through the various regional festivals. Interest in playwriting has been stimulated by a provincial competition.

Extension Library

During the year, changes in policy with respect to Extension Library service were implemented. Entitlement to membership was restated, a schedule of nominal fees was put into effect and service to school classes was cancelled. Reflecting this change in service to schools, travelling libraries circulation dropped by 17,000. Open shelf circulation to adult readers, following the established trend, increased steadily, reaching a total of 89,376, the highest in the Library's history and double the circulation of seven years ago.

Reference service and reading guidance play an important part of the Library's work. Books are sent to study groups throughout the province, and those in art, music and drama have an especially rapid circulation. Many teachers call on the Library for information at the adult level, and there has been an increasing demand from supervisors of kindergartens and play schools, both for technical books on the organization of such schools, teaching of young children and for collections of songs, stories, games and other activities. Many requests are received from students for assistance in preparing term papers on a wide variety of subjects and by adult students studying by correspondence, particularly in the areas of English literature and Canadian history. Reference inquiries from general readers range in subject from Indian artifacts to Chartres Cathedral, from tanning rabbit hides to a critical study of King Lear.

As in any significant education program, teaching effort must be supplemented by easy access to suitable books. The Library has paid special attention to guiding the reading of adult readers, to providing a

general reference service to the Alberta communities and to the servicing of students enrolled in Extension classes and short courses. Smaller libraries throughout the province have been assisted with special collections of books. During the year some thirty-five travelling library boxes of 35-40 books were sent out to small public libraries throughout Alberta. Inter-library loans continue to increase and many small libraries call on the Extension Library for material in such fields, for example, as electronics, window display, stage costume, play production, accountancy, vocational guidance and so on, all of which are beyond their local resources.

This year, a particular effort has been made to adapt the usual service of the Library by mail to students enrolled in evening classes and short courses. Such students were served by prepared reading lists distributed to them together with forms entitling them to mail service.

Two sections of the catalogue of adult books were printed during the course of the year. A complete listing of the Library's collection is now available in six sections and kept up to date by supplementary lists of new books.

This reading service to members of the Alberta public is an important continuing education opportunity for Albertans. Many letters of thanks are received from readers, including this typical response to the Library service:

"I want to take this opportunity of thanking you all at the Library for the wonderful books I have had the privilege of reading this past year. By following a diversified reading program I am hoping to make up for the education I missed out on some forty years ago. Yours is a service I will never be able to take for granted -- each new batch of books is a thrill. "

Visual Instruction

During the last two years, the Visual Instruction Division has been in the process of preparing itself for a new and more appropriate pattern of service. This includes four distinct areas: the audio-visual materials and equipment library, an audio-visual materials preparation laboratory, an information and programming service and instruction consultation and research in audio-visual communication.

Circulation of film material during the year has been stable at the 19,000 reel mark. Five thousand filmstrips and sets of slides were sent out during the year.

In consultation with the Department of Fine Arts, a library of

records and tapes has been begun and a broad range of recordings of music, drama and other areas, has been catalogued and the service extended to Albertans. It is intended that this material should become the basis for study programs throughout the province.

A change in policy with respect to the use of materials on campus has resulted in a substantial increase in the use of audio-visual materials in the intramural classes. In this connection, the Supervisor of the Division consults frequently with intra-mural departments in the selection and use of appropriate films, slides, strips and other materials. A complete catalogue of films, slides, strips and records has been prepared and distributed. In addition to its prime continuing education function, considerable attention has been given to cooperating with intramural faculties in meeting their needs for audio-visual materials and equipment. Thirty-two films have been acquired for the Library for some twelve departments. A considerable amount of time is given by members of the staff and by advisers, both on and off the campus, in the selection of suitable audio-visual materials for undergraduate and adult students.

Apart from its provision of a library of films, slides, strips and other materials, the Division assumes responsibility for advising on their best use. To this end an audio-visual reference file has been established, accessible both to faculty members and the public, with a growing stock of information on materials, equipment, techniques, etc. This information service enables better programming and a more effective use of audio-visual materials, both on and off the campus. Planning has begun for the establishment of an audio-visual preparation laboratory. The purpose of this laboratory is to provide facilities to users of audio-visual materials which will enable them, with expert assistance at hand, to prepare classroom teaching aids. The Department of Extension is grateful to the Alumni Association of the University for its assistance in providing appropriate equipment during the year for the production of a filmstrip depicting campus activities of the University of Alberta.

The Supervisor of the Division has undertaken instruction in audio-visual communication in the Summer School Faculties of Education, Physical Education, Nursing Education and Household Economics, and off the campus with a variety of adult groups.

Agricultural Extension

Publications prepared by members of the Faculty of Agriculture and printed during the past year included:

1961 Feeder's Day Report
Immersion Cleaning
Blueberry-Beaverlodge Soil Survey

Alberta Soil Zones Map
Chemical Control of Couch Grass
Colored Soil Profile Sheets

Entomology Leaflets

Camel Cricket, Strawberry Weevil, Mosquitoes and Their Control, Insecticides for Use Around the Home and Garden, Mites in Stored Grain and Feeds.

Among the publications issued by the Department of Extension were 'Agricultural Bulletins' available from the University of Alberta, 'Motions and Amendments', 'Selected Lists of Horticultural Publications' and 'The Position of Agriculture in a Growing Economy'. The distribution of these bulletins and publications is an important function of the Department of Extension. During the year, some 45,000 bulletins, pamphlets and leaflets were distributed to those requesting them by mail or phone.

In cooperation with the Alberta Soil Survey staff of the Canada Department of Agriculture, a specially prepared, non-technical Edmonton soil survey sheet was prepared. It is expected that this type of publication will meet the needs of a wider audience than its more technical form which will continue to be printed.

Staff

It is a great pleasure to record a well-deserved tribute to all members of the staff of the Department of Extension who have contributed so effectively to the University's work in continuing education. Faculty members from the Edmonton and Calgary campuses have given generously of their time and skill.

It is a particular satisfaction to record the substantial help and co-operation of many provincial organizations and for the assistance of many persons from business, from the professions, from education and from agriculture for their contribution to the development of the University's Extension program.

New Directions

The most pressing demand on today's society is to improve its capacity to deal successfully with problems of international relations. This is clearly a key to world survival. Necessary to the development of this capacity is an informed citizenry, aware, sensitive and knowledgeable about the problems with which we are confronted. In this, the University, with its unique position in the community, has a role of special responsibility. Through lectures, conferences, broadcasts, courses and reading programs, the University can make an important contribution towards education for citizen responsibility. If the resources of the University are to be shared effectively with the people of the province, some special attention should be given to more adequate service to rural areas. If a shift in

population from rural to urban areas has made less possible the arrangement of regular classroom instruction in centres outside of Edmonton and Calgary, a contribution which a well organized program of correspondence education and directed reading can offer in this situation is worthy of careful exploration.

The development of adult education through public school boards and through a variety of local and province-wide organizations needs considerable encouragement.

Conclusion

The University has been described as a community of scholars and its responsibility that of storing, maintaining and disseminating accumulated knowledge. It functions to supply the educational needs of youth. But in addition, it has the relatively newly-developed but increasingly important function of providing educational opportunities to adults. No person, it has been said, can remain effectively educated without continuing study. In providing these opportunities for continuing education, the university serves itself and the province as well.

STATISTICAL SUMMARYShort Courses, Classes, Conferences

	<u>Number</u>	<u>Attendance</u>
Liberal Education	92	1, 963
Business, Profession and Vocational Education	134	4, 046
Community Organization	9	478
Continuing Education in the Fine Arts	84	1, 776
	319	8, 262
Extension Course Centres	46	

Extension Library

Book Stock	48, 942	
Circulation		
Open Shelf	135, 657	
Travelling Library Boxes	3, 773	
Other	581	
	140, 011	

Extension Visual Instruction Division

Films	3, 555	11, 795
Filmstrips and Slides	3, 053	5, 116
Records and Tapes		

Study Group Material

Agricultural Bulletins, Circulars, Leaflets distributed		45, 049
Study Group Materials distributed (Great Books, Ways of Mankind, Great Religions, Reading in World Politics, Introduction to the Humanities, Dis- covering Modern Poetry, Looking at Modern Painting)		186

REPORT OF SENATOR DONALD CAMERON, DIRECTOR
OF THE
BANFF SCHOOL OF FINE ARTS

This is the 29th Annual Report of the activities of the Banff School of Fine Arts and Centre for Continuing Education and it marks the largest increase in the number of people using the facilities of the School in its history. Altogether, some 206 groups as opposed to 126 the year before, used the School's facilities for short courses, conferences, meetings, demonstrations, etc. This number of groups represented 12,000 people as opposed to 9,000 the year before, an increase of 3,000 in one year. These figures speak for themselves as to the need for a residential centre for adult education in western Canada and are an eloquent expression of the ever-growing interest in adult education by the Canadian people. The groups who have attended the School have come from all over Canada, many parts of the United States and some from other countries. It has been a very satisfactory year.

As the oldest activity of the Banff School of Fine Arts, the Summer Session is the largest single activity in the year. During the 1961 Summer Session, there was a gross enrolment of 836 students and this represented an increase of approximately 10% over the year before. These students came from every Canadian province as well as thirty states of the United States and a number of foreign countries. The students were enrolled in some 56 courses and there were 85 members employed on the teaching staff including assistants. This is an increase of ten over the number of staff members of the previous year.

For the last six or seven years the Banff Summer Festival Program has been developing both in extent and in quality and the summer tour of the Opera, Drama and Ballet Divisions has become a regular feature of the Festival. During the past year, productions of "La Traviata" were put on in Edmonton, Red Deer, Calgary and Lethbridge to very appreciative audiences. A production of "A Midsummer Night's Dream" was put on in Edmonton and Calgary and the production of the Ballet Company was put on in Calgary and in Banff. As a matter of fact, all of the productions were put on in Banff. The total audiences attending the productions were 20,200, an increase of approximately 1,000 over the previous year. The gross cost of these productions, including transportation, housing, share of teaching staff, technical staff, etc. was approximately \$33,000 and most of this was recovered from the sale of admission tickets and from season tickets from the students. In addition to this, a special grant of \$3,000 was received from the Canada Council to assist in the provision of an orchestra to accompany the ballet and opera on tour.

As was the case in previous years, through the generosity of individual Canadians from one end of the country to the other, community groups such as the I. O. D. E., Rotary Clubs, Kiwanis Clubs and others, approxi-

mately \$20,000 was raised for the Scholarship Fund. This money provided assistance of from as little as \$50.00 to as much as \$400.00 to some 150 students and as usual, the annual Scholarship Night which was held on July 21st, 1961, was one of the highlights of the year. A feature of Scholarship Night has always been the presentation of the University of Alberta National Awards in Music, Letters or Painting. The award in 1961 was given to the distinguished Canadian singer, Lois Marshall and it was a very popular choice.

For some years, the increasing interest in business administration has been expressed through the increasing number of business and professional groups holding conferences at the Banff School of Fine Arts. During the year, approximately 30 weeks is given over to programs in business education of one kind or another. The largest and most substantial activity in the field of business education is the annual School of Advanced Management which is sponsored co-operatively by the Universities of Alberta, British Columbia, Saskatchewan and Manitoba. During the past year, some 88 students from all over Canada were in attendance. They were a hard working group and gave a very fine account of themselves. Up to the present time, some 834 executives from all over Canada and a few from the United States and some from as far away as Venezuela have gone through the management training program. It has made for itself an enviable reputation among similar management training schools on the North American continent and it shows evidence of growing in importance year by year.

Altogether, some 67 different professional and business groups had short courses and conferences at the School during the year. These 67 groups had an aggregate attendance of 4,394 persons; this compared with 56 groups and 3,052 persons the year before.

The growing numbers taking advantage of the facilities offered by the Banff School of Fine Arts is an indication of the acceptance by the Canadian people of the increasingly vital and important role that must be played by adult education in modern society and it can be safely anticipated that demands from more groups will be a constant feature of an expanding program in adult education in Canada.

One of the interesting and unusual features of the Banff School of Fine Arts program is that while in the past year the gross operating cost of the School including the Banff School of Advanced Management and the Banff School of Fine Arts & Centre for Continuing Education was something in excess of \$500,000, the amount in the University budget was \$21,000. This is an evidence of the fact that the entire adult education program is on a self-supporting basis which is a sound and healthy way to have it. The amount of the subsidy has all gone into capital costs in the way of building maintenance, repairs, extensions and furnishings.

As a result of the increasing demand on the School, particularly for residential facilities, plans were made during the year to make a start on the south-west wing of the Administration Building which would provide a substantial addition to our residential facilities and classrooms and it is anticipated that these facilities will be ready for occupancy by July 1st, 1962 and it will mark a very substantial addition to our resources.

One of the very important elements in the success of institutions of the calibre of the Banff School of Fine Arts is the quality of the administrative staff and it would not be appropriate to close off this report without making some reference to the very fine service that has been given by a large and dedicated staff who seem to have caught the spirit of public service necessary to make an institution of this kind thrive and prosper and there have been many very complimentary remarks made by visitors here on the quality of service rendered. It is to be hoped that this high standard of performance can be maintained in spite of the increasing pressures year by year.

REPORT OF DR. R. D. STUART, DIRECTOR
OF THE
PROVINCIAL LABORATORIES

During 1961 the Provincial Laboratories carried out 687, 105 examinations, an increase of 68, 864 over 1960. This increase amounts to 54, 096 for the Edmonton laboratory and 14, 768 for the Calgary laboratory, the relative percentage increases being 12 and 10, still approximately equal in each laboratory. In both laboratories the increase was general in all sections but in Edmonton it was particularly notable in virological examinations.

Special Trends

A dramatic increase, from 2, 420 to 5, 964, has been noted in the examinations for tissue malignancies as revealed by exfoliative cytology. The increase was most marked in the Edmonton laboratory, since Calgary had already shown a considerable rise in the preceding year. In the two laboratories 99 specimens (1. 7%) were reported positive or suspicious. In these examinations superficial body cells readily obtained from natural fluids or secretions reveal microscopic changes related to underlying malignant processes. . The specimens can easily be obtained during ordinary office examinations, and the laboratory investigations, though requiring special facilities, are less time-consuming than those of normal tissue histology. Though exfoliative cytology suggests rather than proves malignancy the demand for such examinations now constitutes a definite trend. Particularly is this true in the gynaecological field, where ordinary clinical examination may fail entirely to reveal an early carcinomatous change in the female cervix. Of the 99 smears considered suspicious the majority came from the vagina, but only in 32 cases have complete clinical and adequate biopsy records been obtained to date. Of these, eight were proved non-malignant. Eleven found malignant were already to some degree clinically suspect, but 13 clinically unsuspected cases were proved to have early cancer. To detect early unsuspected cancer is particularly gratifying to the pathologist, and since operation is likely to be so successful at this stage, it also tends to create clinical enthusiasm for the technique. How far this enthusiasm may carry demand remains to be seen, but there is a necessary limit imposed by the amount of available money and even more importantly, by the time of available experts. The multiplication even of simple examinations carries its own dangers. For an expert to maintain critical judgment in studying 98 negatives in order to find two positives may be feasible, but to do the same over 998 negatives - as might easily happen without some critical clinical selection of cases - is simply not possible.

The increased demand for statistical data is probably an inevitable

trend when Federal and other grants must be related to individual services. Unfortunately, such data rarely correspond with those normally kept by laboratories which relate to the incidence and epidemiology of disease or to the efficiency of laboratory methods. Therefore, their collection can often seriously interfere with laboratory work, because of the diversion of skilled technicians from technical work to statistical analyses. For some time the Edmonton laboratory has been experimenting with an IBM card system, which is adapted to mechanical sorting for data collection. This is being introduced into the Calgary laboratory and may reduce the wastage of valuable staff time of which Dr. Shute now complains bitterly.

New or Supplementary Services

The work carried out in the Edmonton Virus Laboratory must still come under this heading because of the continued increase in the variety and complexity of the services offered. The number of examinations increased from 8,486 to 19,173 but more importantly, the virus isolation service was increased to include antero-viruses other than polio. This was particularly fortunate because of the high incidence of such virus infections in Alberta during 1961. 114 cases of possible neurotropic virus infections were investigated, and 44 (38%) yielded significant results. A few polio-viruses, mainly Type 3, were isolated from sporadic scattered cases, but Cocksackie B5 and A23 were much more numerous, particularly in the August and September periods. Many patients showed signs of meningeal irritation or evidence of muscle weakness, but other symptoms were often more prominent. Of 27 cases of pleurodynia 14 (51%) yielded viruses of the Cocksackie B group. In many instances individual cases investigated represented small outbreaks.

Influenza viruses were isolated from a number of individuals also representing small localized outbreaks. Influenza A2 (Asian) was most common in the Province, and was also isolated from a significant outbreak in Resolute Bay, N. W. T. Not all diseases clinically resembling influenza were caused by influenza virus. In May, Cocksackie A4 was determined to be the cause of an outbreak of acute respiratory disease in Fort Smith, N. W. T. In August Cocksackie B4 was isolated from an "influenza" case in Penhold, and Echo 15 from a respiratory infection in Fort Assiniboine. Later Cocksackie A23 was isolated from an influenzal case in Edmonton, and an adenovirus from an outbreak of respiratory disease in Griesbach barracks.

A small outbreak of primary atypical pneumonia, several cases of mumps encephalitis or meningitis, and possible instances of scrub-typhus and western equine encephalomyelitis were among the more interesting of other investigations.

Regular Services

Pathology

During the year, 33,126 blocks of tissue removed during surgery were examined and reported on in our two laboratories. The total is about the same as last year, but it actually represents a small increase in Edmonton and a small decrease in Calgary. The decrease is due to policy changes initiated by the Alberta Society of Pathologists, which led Dr. Shute to limit the number of examinations on routine tonsils and adenoids from young children to allow for more effective allocation of his time to the increased number of more important specimens. This change was not specifically reflected in the Edmonton figures because of the much greater volume of its work and its closer association with major surgery and larger hospitals. Cancer was detected in 1,475 persons - approximately 7% of those examined.

Dr. Macgregor, who is the head of the University Department of Pathology as well as Provincial Pathologist, draws attention to an important point which is seldom appreciated - the fact that the large number of tissues received at the Edmonton Provincial Laboratory continued to provide an excellent source of teaching material for resident trainees in pathology and other specialties. On such training the future supply of medical laboratory specialists in this province depends very largely.

Bacteriology

The increase in *Salmonella thompson* infections anticipated in last year's report has been adequately confirmed. In 1961 the organism was isolated from 241 specimens (77 cases), as compared with 93 specimens (29 cases) last year. No special outbreak was encountered and the clinical conditions were generally mild. It seems likely that the peak of this organism's importance is now passed. On the other hand, the discovery of 20 cases of typhoid infection cannot be regarded with equanimity. Certainly some of the cases came from outside the Province; a small outbreak on Holman Island in the Arctic accounting for two cases and two carriers - one an 86-year old Eskimo woman - but others came from much closer areas. For instance, an outbreak in Edmonton involved seven or more people. This was traced to a carrier who had been making cheese for his Italian friends in the basement of his home and incidentally demonstrates how easily human irresponsibility can escape sanitary surveillance.

The continued incidence of *C. diphtheriae* - especially in the Indian population - must be emphasized. Calgary recorded 10 isolations, eight of them aural infections, all among the Blood Indians of Cardston. Edmonton had 8 positive throat infections and 2 aural infections among Indians in the Saddle Lake area, also 2 cutaneous diphtheria cases from Hobbema. Practically all strains were Gravis type 2, indicating a con-

siderable infection focus in this segment of our population.

The continued increase in both laboratories in the examinations for tuberculosis may appear unexpected, and the difference in percentages of recorded positives in the two areas may seem odd. The Edmonton laboratory found 4% of smears positive by microscopy, the Calgary laboratory 0.8% and in the examination of specimens by all methods including culture and guinea pig inoculation the former laboratory found 7% positive, the latter 4.2%. The Edmonton figures are swollen, however, by material from the Northwest Territories, much of it from new cases with a high incidence of positives, whereas the Calgary laboratory is dealing largely with local chronic cases. Both laboratories find themselves more and more occupied in tests for cure which often require a greater number of examinations than do tests for diagnosis, and also in determining the sensitivity of strains of tubercle bacilli to chemotherapeutic substances in order to assist treatment. Figures from the Edmonton laboratory show that 77% of the strains tested were sensitive to the three commonly used substances, 3% were resistant to all of them, and of the remaining 20% which were resistant to one or more than one chemotherapeutic substance, 13 were resistant to Streptomycin, 15 to Isoniazid and 12 to PAS.

The 20% increase to 12,305 in the Edmonton gonococcal cultures, and the 70% increase to 1,023 in the comparable Calgary examinations may not necessarily indicate an absolute increase in the incidence of this disease, but it certainly indicates an increased clinical reliance on this method of diagnosis. In Edmonton it is now regarded as the main diagnostic procedure in all female cases, but in Calgary it is used chiefly in problem cases and in tests for cure.

The relative importance of various organisms in current serious disease is suggested in the results of positive blood cultures. Of the 78 organisms isolated from bacteraemic cases in Edmonton, 25 were Gram negative coliform bacilli of various species, whereas Staphylococcus aureus and streptococci, long most important, now amounted to 22 and 12 respectively. This change-over is almost certainly associated with the ready availability of antibiotics which are in general more effective against the Gram positive organisms.

The Mycology Sections of both laboratories continued to be consulted extensively by practitioners. A wide range of organisms is encountered, with even the most unusual infections continuing to recur from year to year. Dr. Carmichael of the Edmonton Central Reference Laboratory, adds the following interesting comments on some of his observations:

"An unusual fungus was isolated from ringworm on the back of the hand of a seven-year old Vegreville girl in 1957. The fungus has now been identified as Microsporum nanum. Only four human cases of M. nanum

infection have been reported previously. All four occurred in warm climates (Cuba, Mexico, Louisiana). An outbreak of M. nanum ringworm in pigs has been reported from Kenya. A report of the Alberta case has been accepted for publication in *Mycopathologia et Mycologia Applicata*.

The seasonal incidence of various ringworm fungi in Alberta was investigated using the records of the Mycology diagnostic section for the years 1958 to 1961.

It was found that Microsporum canis infections (mostly acquired from cats and dogs) reach a low ebb in June, climb to a plateau which lasts from October to January, and then decline again from February to June.

Trichophyton verrucosum infections (mostly acquired from cattle) reach a low ebb in September, climb rapidly to a peak in February, and then decline more gradually until September.

Trichophyton mentagrophytes, Trichophyton rubrum and Candida albicans did not show any consistent seasonal variation over the period studied. These fungi are not associated with animal reservoirs. "

Staff

In July, 1961 there were two new additions to the full time staff of the Division of Pathology in the persons of Dr. T. A. Kasper and Dr. R. J. Swallow, both of whom hold the rank of Assistant Professor of Pathology in the University of Alberta. Dr. Kasper is presently in charge of the Cytology Section, while Dr. Swallow is responsible for surgical pathology in cases referred to the Provincial Laboratory from the northern half of the Province. Dr. Swallow is also responsible for medico-legal work done in the department.

Miss S. R. Toshach who had been taking courses in the University of Toronto with the help of a Provincial Training Grant was successful in obtaining the Diploma in Bacteriology from that University. She resumed her duties as Assistant Bacteriologist in June.

In November, your Director was presented with the 10th Kimble Methodology Award by the Conference of State and Provincial Laboratory Directors for his work in the development of a transport or holding medium for bacteriological specimens. This is the first time that the award has come to Canada, and it is very gratifying that the Alberta laboratories were so honoured.

REPORT OF DR. D. SHUTE, DIRECTOR
OF THE
PROVINCIAL LABORATORY, SOUTHERN BRANCH

During 1961 a total of 165,322 examinations were conducted in the Provincial Laboratory at Calgary. This is an increase of 13,663 or approximately 9% over the total for 1960.

The greater part of this increase was in the field of bacteriology.

The increasing demands of both the Provincial and Federal authorities for more statistical analyses have already demonstrated that professional and technical workers are diverting a considerable amount of their time to this type of work to the detriment of their scientific activities. In my opinion it will be necessary to add suitable staff specifically for statistical duties and so prevent deterioration in the quality and accuracy of the technical work. There is no doubt that a measure of work volume based on the Dominion Bureau of Statistics unit values, when properly implemented, will be more realistic than merely totalling the number of examinations (some of which are simple while others are extremely complicated and time consuming) but it does involve considerable staff time.

Pathology

Routine diagnostic histology has not increased during the year. Diagnoses of cancer were made in 431 cases after the examination of 6213 specimens. This represents nearly 7% and is about the same as in 1960.

Exfoliative cytology has increased from 1010 to 1856, i.e. 83% and in 22 instances (1.1%) cancer was demonstrated histologically after the cytology report had recommended surgical biopsy.

This return appears small but the time consumed is considered to be well spent as the majority are in an early stage which cannot be diagnosed by any other method and, it is hoped, will have a much better prognosis.

Bacteriology

Salmonellosis was again in evidence in the southern half of the Province but no major epidemic occurred this year.

As in the last two years, diphtheria appeared sporadically ten cases being diagnosed. Eight of these were aural infections and appeared, as in previous years, among the Blood Indians at Cardston.

Bacillary dysentery still appears sporadically, 29 diagnoses being confirmed of which 15 were *Shigella flexneri* and 14 *Shigella sonnei*.

The tuberculosis section shows an increase of 31% in examinations performed but this figure does not show the increase of technician hours involved in conducting the many more animal inoculations and autopsies, in performing the complex sensitivity tests of *M. tuberculosis* to the various antimicrobial drugs and the investigation of atypical organisms.

The number of *N. gonorrhoeae* cultures has almost doubled but in the southern part of the Province these are used chiefly in problem cases and as tests of cure.

Of a total of 32,244 specimens examined in the syphilis serology section only 69 were "positive" to the reactions and represent a mere 0.2%.

This appears to be a very meagre return for the time expended. Moreover, these tests are not specific for the detection of syphilis at any stage of the disease so we have no means of knowing whether the "positives" represent syphilitics or are biological false positives which are found in respiratory infections, infectious mononucleosis, tuberculosis, virus diseases (e. g. measles), pregnancy and even in completely normal individuals.

Staff

The marked increase in the exfoliative cytology section of Pathology is the direct result of the training of one technician (Miss L. Aboussafy) in this exacting technique at the University of California in late 1960 and early 1961. In fact the increase occurred largely during the last nine months of the year and demonstrates the good return to be obtained from such post-graduate courses financed at public expense.

The recruiting and retaining of a good staff still pose serious problems for two reasons:

- (1) The nationwide shortage of laboratory technicians and medical secretaries.
- (2) The unfortunate geographical situation of the Southern Branch Laboratory.

The technical and secretarial staff have worked well and loyally to maintain the services provided by the Provincial Laboratory at Calgary.

REPORT OF MR. C. E. NOBLE, PROVINCIAL ANALYST
AND
DIRECTOR OF THE INDUSTRIAL LABORATORIES

The Department of the Provincial Analyst and Industrial Laboratories completed 11,860 analyses and examinations during the year ending March 31, 1962.

Included in these are the analyses made for the Government Departments of Attorney General, Highways, Lands and Forests, Health, Public Works, Mines and Minerals, Provincial Secretary, and Agriculture including the Veterinary Laboratory. Also, work was done for the Research Council, the University, the Workman's Compensation Board, Government Purchasing agencies, and the Alberta Liquor Control Board. Inspection of the breweries and periodic chemical checks were also made for the liquor board.

Chemical analyses were made on post mortem specimens for the Provincial and District Coroners, as well as for the hospitals, pathologists, and police agencies in the province. Also, specimens were examined to determine if any chemicals were present which could cause illness.

Physical and chemical tests were performed on various police samples to assist in law enforcement.

Weather conditions caused an increase in poison mishaps among animals. The dry weather of the summer caused various outbreaks of food poisoning among the animal population.

Research and tests were carried out on industrial samples, some to solve troubles or manufacturing problems, and others for improvement and control of products and checks on raw materials.

There was less assistance given to prospectors, as this phase of the work has lessened somewhat. However, more investigations were carried out re rare elements, and this entails more work than gold-silver assays.

Investigation of engineering problems become more frequent and more difficult, as the number of products increase. The time spent on individual tests is greater because of the increasing use of new materials and old by-products.

The over-all number of analyses increased again this year, the greatest increase being due to investigations in health problems, both human and animal. Assistance was received from and given to other University Departments and outside Laboratories.

Technical assistance was given to some of the Government Departments as well as to some of the University Departments.

APPENDIX I

FINANCIAL STATEMENTS

Edmonton, Alberta, July 10, 1962

I have audited the books and records of the University of Alberta for the year ended March 31, 1962.

Operating Results

Operations for the year ended March 31, 1962, resulted in a surplus of \$107,301.21 as compared with a surplus of \$104,119.01 for the previous fiscal period. Details of operations are shown in Statement C and accompanying schedules.

The surplus for the year has been carried to operating reserve. Transactions within the reserve are set forth in Statement B.

Maintenance and upkeep of the building used by the Faculty of Education in Edmonton has been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values had been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the

Province of Alberta:

Balance as at April 1, 1961 \$ 41,689,492.99

Add: Advances during the Year:

Medical Science Building	1,690,493.09
Calgary Gymnasium	849,356.75
Education Building	323,533.79
Students' Health Services Building	155,118.66
Calgary Site	146,091.37
Paving and Grounds	130,724.59
Engineering Building	70,602.59
Teaching Building Improvements	65,124.89
Banff School Buildings	64,204.88
Residences and Faculty Houses	59,605.68
Power and Steam Lines	51,807.06
Power Plant Building	50,340.24
Calgary Sundry Buildings	46,944.23
Edmonton Sundry Buildings	32,630.61
Hydraulics Laboratory	21,138.05
Banff Cosmic Ray Laboratory	12,745.00
Equipment	1,973,752.49

\$ 47,433,706.96

Capital Surplus:

Balance at April 1, 1961 4,781,776.92

Add: Acquired from Trusts and

Donated Funds:

Buildings:

Kinsella Ranch Bldgs.	\$ 38,395.56
Banff School Bldgs.	5,000.00

43,395.56

Equipment	162,876.33
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Kinsella Ranch, Livestock	7,006.50
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Library Books	16,329.90
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Income Contributions:

Buildings:

Banff School Buildings	51,000.00
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Equipment	18,570.22
-----------	-----------

Library Books	269,410.38
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\$ 5,350,365.81

Deduct: Demolition of Buildings,

Book Value

7,230.08

5,343,135.73

\$ 52,776,842.69

Final cost to the University of Alberta McMahon Stadium, Calgary, was determined to be \$1,050,000.00. In settlement thereof the University issued \$750,000.00, 5 1/2% debentures due March 15, 1982 and \$300,000.00 non-interest bearing debentures due June 1, 1975. The 6% debentures due June 15, 1975 previously issued in respect of construction costs were surrendered for redemption upon issue of the 5 1/2% debentures due March 15, 1982. The interest bearing debentures are guaranteed as to principal and interest by the Government of the Province of Alberta. Non-interest bearing debentures presently held in escrow are to be surrendered from time to time as a gift to the University. Operations of McMahon Stadium are conducted by the McMahon Stadium Society and no revenues or expenditures are reflected in the accounts of the University.

Subject to the foregoing, I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1962 according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the result of operations for the year ended at that date.

C. K. HUCKVALE, F. C. A.

Provincial Auditor

UNIVERSITY OF
BALANCE SHEET AS AT

ASSETS

Buildings and Equipment in service:

Land, buildings and plant	\$	43,784,160.75
Furnishings and equipment		<u>9,930,140.29</u>

\$ 53,714,301.04

Accounts receivable:

Students' Union re buildings
contributions, see contra

282,952.84

Investments:

Provincial direct and guaranteed debentures
at book value (Market value \$191,250.00)

199,050.00

Cash:

Cash on hand, in banks and treasury branch \$ 175,678.51

Accounts receivable:

Sundry debtors	\$	149,264.01
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Less: Allowance for

doubtful accounts		<u>2,500.00</u>
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\$ 146,764.01

Government of the

Province of Alberta		1,392,128.36
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Government of Canada		410,665.07
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Due from trust account		<u>21,431.68</u>
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1,970,989.12

Accrued interest		13,933.21
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Merchandise held for resale		<u>318,763.74</u>
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2,479,364.58

Prepaid expenses:

Supplies on hand	\$	139,817.80
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Unexpired insurance		<u>4,727.75</u>
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144,545.55

Other Assets:

Livestock	\$	43,248.50
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Deposit, Workmen's Compensation Board		<u>8,564.00</u>
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51,812.50

Carried Forward

\$ 56,872,026.51

ALBERTA

Statement A

MARCH 31, 1962

LIABILITIES

Capital and surplus:

Capital provided by the Government of the Province of Alberta	\$ 47,433,706.96	
Capital surplus	<u>5,343,135.73</u>	\$ 52,776,842.69

Debenture debt:

5 1/2% debentures due March 15, 1982	\$ 750,000.00	
Non-interest bearing debentures due June 1, 1975.	<u>300,000.00</u>	1,050,000.00

Loan payable:

Government of the Province of Alberta re buildings contributions, see contra		282,952.84
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Current:

Bank overdraft	\$ 973,747.05	
Accounts payable	980,401.00	
Accrued interest	<u>9,329.05</u>	1,963,477.10

Deferred income:

Fees	\$ 55,789.29	
Others	<u>632.05</u>	56,421.34

Reserves:

Library funds unexpended	\$ 54,473.13	
University Athletic Board funds unexpended	42,789.88	
Federal aid funds unexpended	39,967.36	
Land exchange	24,226.42	
Workmen's Compensation Board	8,564.00	
Provincial Laboratory of Public Health operating	22,804.74	
Operating, general, Statement B	<u>549,507.01</u>	742,332.54

Carried Forward

\$ 56,872,026.51

ASSETS

Brought forward	\$ 56,872,026.51
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Trust:

Investments, book value:

Government of Canada

bonds, direct and

guaranteed

\$1,422,500.00

Provincial debentures,

direct and guaranteed

2,331,785.00

Municipal debentures

6,000.00

Corporation debentures

20,125.00

Corporation shares

63,161.46

 \$3,843,571.46

Cash on hand and in banks

284,395.17

Loans receivable

59,665.42

Real estate, shares and sundry,

nominal value

9.00

 4,187,641.05

 \$ 61,059,667.56

This is the Balance Sheet re
July 31, 1962, addressed to

LIABILITIES

Brought forward

56, 872, 026. 51

Trust:

General endowment:

Rockefeller Foundation

\$ 500, 000. 00

Scholarships:

Escheated estates

\$ 868, 017. 12

General

638, 459. 77

1, 506, 476. 89

Research

938, 381. 66

Grants and Loans

118, 556. 29

General purposes

783, 559. 58

Students' Unions

234, 283. 75

Held on behalf of others

84, 951. 20

Due to General Account

21, 431. 68

4, 187, 641. 05

\$ 61, 059, 667. 56

ferred to in my report of
the Board of Governors.

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
FOR THE YEAR ENDED MARCH 31, 1962.

Balance as at April 1, 1961	\$387, 996. 94
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Add:

Surplus for the year ended March 31, 1962	\$ 107, 301. 21	
Transfer from Provincial Laboratory of Public Health operating reserve:		
Excess of expenditure over revenue	9, 096. 89	
Transfer from trust re student breakage recoveries	17, 466. 89	
Proceeds from disposal of equipment	32, 246. 03	
Recovery of sale tax	835. 05	
		166, 946. 07
		\$ 554, 943. 01

Deduct:

Purchase of snack bar equipment from the Students' Union		5, 436. 00
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Balance as at March 31, 1962	\$ 549, 507. 01
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UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1962

REVENUE

Grants:

Province of Alberta:

General	\$ 8,000,000.00
Clinical research, University of Alberta Hospital, see contra	50,000.00
Debt charges, see contra	1,394,550.98
	\$9,444,550.98

Government of Canada:

Federal aid	1,946,597.31

\$ 11,391,148.29

Fees:

Tuition	\$ 2,753,412.65
Examination and special, net	42,603.88

2,796,016.53

Interest on Rockefeller Foundation endowment	\$ 20,000.00
Deduct: Transferred to medical research trust	10,000.00

10,000.00

Grants in aid	15,000.00
University Athletic Board funds, see contra	53,582.08
Operating departments, net revenue as per Schedule No. 1	49,848.73

\$ 14,315,595.63

Statement C (con't)

EXPENDITURE

Faculties and school, net, as per Schedule No. 2	\$ 8,618,968.57
Maintenance of buildings and grounds	1,788,520.66
Expenditures, as per contra:	
Debt charges	1,394,550.98
Grant to University of Alberta Hospital re clinical research	50,000.00
Provision for University Athletic Board expenses	53,582.08
Administrative salaries and expenses, general	531,686.37
Public service departments, net, as per Schedule No. 3	306,678.71
Other expenditures, net, as per Schedule No. 4	1,464,307.05
	\$ 14,208,294.42
Surplus for year ended March 31, 1962, carried to Operating Reserve, Statement B	\$ 107,301.21

APPENDIX II

ACADEMIC STAFF NUMBERS

Administrative Officers:

President	1
Vice-President	1
Provost and Executive Assistant to President	1
Assistant to the President	1
Assistant to the Vice-President	1
Deans of Faculties	10
Directors of Schools	5
Principal, Calgary	1
Director of the Summer Session and Evening Credit, Calgary	1
Edmonton	1
Provost, Calgary	1
Director of Student Counselling Calgary	1
Edmonton	1
Counsellors	6
Dean of Women	1
Librarian	1
Superintendent of the University Hospital	1
Registrar	1
Calgary	1
Edmonton	1
Associate Registrar	1
Assistant to the Registrar	3
Alumni Secretary	1
Bursar	1
Accountant	1
Assistant Accountant	1
Purchasing Agent	1
Personnel Officer	1
Business Officer, Calgary	1
Superintendent of Buildings Calgary	1
Edmonton	1
Wardens of Residence Halls	2
Administrator - Student Awards	1
Advisor to Schools of Nursing	1
Planning Officer	1
Co-ordinator of Technical Services	1
Advisor to Men Students	1

Full-time Teaching Staff:

Professors	109	
Associate Professors	182	
Assistant Professors	254	
Lecturers and Instructors	<u>24</u>	569

On Leave of Absence:

Professors	2	
Associate Professors	6	
Assistant Professors	12	
Lecturers	<u>2</u>	22

Part-time Teaching Staff:

Professors	0	
Associate Professors	6	
Clinical Professors	15	
Assistant Professors	14	
Associate Clinical Professors	2	
Assistant Clinical Professors	26	
Lecturers and Instructors	187	
Teaching Assistants	<u>238</u>	488

Department of Extension:

Director	1	
Assistants	8	
Agriculture Secretary	1	
Librarian	<u>2</u>	12

Library:

Librarian	1	
Assistant Librarian	3	
Assistants	<u>28</u>	32

Industrial Laboratories:

Director and Provincial Analyst	<u>1</u>	1
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Provincial Laboratory of Public Health:

Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	

Provincial Pathologist
Assistants

1
10

13

Other Staff:

Dietitians

4

4

T O T A L

1198

Less Duplicates

32

T O T A L ACADEMIC STAFF

1166

APPENDIX III

ACADEMIC STAFF APPOINTMENTS AND PROMOTIONS

Faculty of Agriculture

- Bowland, John Patterson, B.S.A., M.S., Ph.D., from Associate to Professor of Animal Science.
- Moore, Alan W., B.Ag.Sc., M.S., Ph.D., Assistant Professor of Soil Science.
- Vanden Born, William Henry, B.Sc., M.Sc., Ph.D., Assistant Professor of Plant Science.
- Person, Clayton Oscar, B.A., M.A., Ph.D., Professor and Head, Department of Genetics.
- Manning, Travis Warren, B.Sc., M.Sc., Ph.D., Professor and Head, Department of Agricultural Economics and Farm Management.
- Lesins, Karlis Adolfs, B.Agr., Lic.Agr., D.Sc., Associate Research Professor of Genetics and Plant Breeding.
- Hardin, Robert Toombs, B.S.A., M.S., Assistant Professor of Animal Science.
- Berg, Roy Torgny, B.Sc., M.S., Ph.D., from Associate Professor of Animal Science in the Department of Animal Science, to Associate Professor of Animal Science, Department of Animal Science, and Associate Professor of Animal Genetics, Department of Genetics.
- Thompson, Mrs. Margaret Wilson, B.A., Ph.D., from Assistant Professor of Human Genetics, Department of Paediatrics, to be also Assistant Professor of Human Genetics, Department of Genetics.

Faculty of Arts and Science

- Patton, Miss Adery Catherine Alison, B.Sc., M.Sc., Lecturer in Mathematics.
- Gainer, Walter Dunham, B.Sc., M.Sc., Ph.D., from Professor of Political Science to Professor of Economics.
- Harris, Walter Edgar, B.Sc., M.Sc., Ph.D., from Associate Professor to Professor of Chemistry.
- von Richthofen, Erich, Dr.Phil., from Associate Professor of Modern Languages to Professor of Romance Languages.
- Davy, Grant Robert, B.A., M.A., Ph.D., from Associate Professor to Professor of Political Science.
- Ryan, Aylmer Arthur, B.A., M.A., from Associate Professor to Professor of English.
- Woodsworth, Joseph Gowanloch, B.A., B.Ed., Ed.D., from Counsellor in Student Counselling Services (Calgary), to Professor of Educational Psychology.

- Bociurkiw, Bohdan Rostyslaw, B. A., M. A., Ph. D., from Associate Professor of Political Economy to Associate Professor of Political Science.
- Boote, Maurice John, B. A., Ph. D., from Associate Professor of Political Economy to Associate Professor of Economics.
- Szoverffy, Joseph, Ph. D., from Associate Professor of Modern Languages to Associate Professor of German.
- Freeman, Gordon R., B. A., M. A., Ph. D., D. Phil., from Assistant Professor of Chemistry to Associate Professor of Chemistry.
- Vozoff, Keeva, B. S., M. Sc., Ph. D., from Assistant Professor to Associate Professor of Physics.
- Anton, Frank Robert, B. Sc., M. A., from Assistant Professor of Economics to Associate Professor of Economics (Calgary).
- Cumming, George Leslie, B. A., M. A., Ph. D., from Assistant Professor to Associate Professor of Physics.
- Crawford, Robert James, B. Sc., M. Sc., Ph. D., from Assistant Professor to Associate Professor of Chemistry.
- Pounder, James Rudsale, B. A., M. A., from Assistant Professor to Associate Professor of Mathematics.
- Wiedner, Donald Lawrence, A. B., A. M., Ph. D., Assistant Professor of History.
- Scheidegger, Adrian Eugen, Diploma (equivalent to M. Sc.), Ph. D., Associate Professor of Mathematics (Calgary).
- Brown, Robert Craig, B. A., M. A., Assistant Professor of History (Calgary).
- Fraser, Miss Barbara, B. A., M. A., Assistant Professor of History.
- Orrell, John Overton, B. A., M. A., Assistant Professor of English.
- Paterson, William Gordon, B. Sc., M. Sc., Ph. D., Assistant Professor of Chemistry.
- King, Bruce Alvin, B. A., Ph. D., Assistant Professor of English (Calgary).
- Jensen, Frede, M. A., Ph. D., Assistant Professor of Modern Languages, (Calgary).
- Laun, Edward Carl, B. A., M. A., Lecturer in English (Calgary).
- Lane, Miss Diane Elizabeth, B. A., M. A., Assistant Professor of English.
- Alexander, Miss Jean, B. A., M. A., Ph. D., Assistant Professor of English (Calgary).
- Anderson, Roland Frank, B. A., M. A., Assistant Professor of English.
- Watson, Mrs. Sheila Martin, M. A., Assistant Professor of English.
- Tennessen, Herman, M. A., M. Sc., Associate Professor of Philosophy.
- von Bertalanffy, Ludwig, Ph. D., from Visiting Professor of Biology and Psychology to Professor of Theoretical Biology.
- Williams, Clifford Glyn, B. A., M. A., Ph. D., Assistant Professor of Political Economy.
- Aubery, Pierre Louis Henri, LèsL., M. A., from Assistant Professor of Modern Languages to Assistant Professor of French.

- Ferraté, Juan, Lic., from Assistant Professor of Modern Languages to Assistant Professor of Spanish.
- Kociuba, Ostop, LèsL., Assistant Professor of Modern Languages.
- Evans, Brian Llewellyn, B. A., Ph. D., Assistant Professor of History.
- Anderson, Paul Knight, A. B., M. S., Ph. D., Assistant Professor of Zoology.
- Benn, Michael Hewitt, B. Sc., ARCS, Ph. D., Assistant Professor of Chemistry (Calgary).
- Kopecky, Karl R., B. Sc., Ph. D., Assistant Professor of Chemistry.
- Abu-Laban, Baha R., M. A., Ph. D., Assistant Professor of Sociology.
- Jones, William J., B. A., Ph. D., Assistant Professor of History.
- Mathews, Robin Daniel Middleton, B. A., M. A., from Lecturer to Assistant Professor of English.
- Qureshi, Ahmad, H., B. A., M. A., B. S., Ph. D., Assistant Professor of English.
- Sommer, Robert, B. A., M. S., Ph. D., Assistant Professor of Psychology.
- Mills, Donald Leon, B. A., M. A., Ph. D., Assistant Professor of Sociology (Calgary).
- Shimrat, Moshe, M. Sc., Ph. D., Assistant Professor of Mathematics (Calgary).
- Breugelmans, René, L. Phil. et Lettres D. Phil. et Lettres Agrégé, Assistant Professor of Modern Languages (Calgary).
- Marxheimer, Edward, A. B., M. A., Lecturer in Modern Languages.
- Inlow, Edgar Burke, A. B., M. A., Ph. D., Associate Professor of Political Science (Calgary).
- Osler, Alan E., B. A., Lecturer in English.
- Brant, Charles Sanford, B. A., M. A., Ph. D., Assistant Professor of Anthropology.
- Kalbach, Warren Edwin, B. A., M. A., Ph. D., Assistant Professor of Sociology.
- vonHohenbalken, Balder, DipKaufmann, DrRerPol, Assistant Professor of Economics.
- Pocklington, Thomas Carey, B. A., Ph. D., Assistant Professor of Political Science.
- Humphries, Michael, B. A., M. A., Ph. D., Assistant Professor of Psychology (Calgary).
- Blanchard, William August, M. A., Ph. D., Assistant Professor of Psychology.
- Ruth, Royal Francis, A. B., M. S., Ph. D., Assistant Professor of Zoology.
- Prescott, John Russell, B. Sc., Ph. D., D. Phil., Assistant Professor of Physics (Calgary).
- Paranjape, B. V., M. Sc., Ph. D., Assistant Professor of Physics.
- Keeping, Anthony John, B. A., M. A., Assistant Professor of Mathematics.
- Taylor, Harry William, B. Sc., M. Sc., Ph. D., Associate Professor of Physics.

- Melnikov, George, LèsL., CAPES, Lecturer in Russian.
- Newbound, Kenneth Bateman, B.Sc., M.Sc., Ph.D., Assistant Dean of the Faculty of Arts and Science.
- Boal, Frederick Wilgar, M.A., M.S., Assistant Professor of Geography (Calgary).
- Chwe, Byoung-Soung, B.S., M.S., Ph.D., Assistant Professor of Mathematics.
- Williams, Gordon Donald Clarence, B.Sc., Ph.D., Assistant Professor of Geology.
- Peacocke, Charles Thomas, B.Ed., B.A., M.F.A., Assistant Professor of Drama.
- Jacoby, Arthur Philippe, B.A., Ph.D., Assistant Professor of Sociology.
- Kiyooka, Harry Mitsue, B.Ed., B.F.A., M.A., M.F.A., Assistant Professor of Art (Calgary).
- Rempel, Peter P., B.A., B.Ed., Ph.D., Acting Director of Student Counselling Services.
- Colter, John Sparby, B.Sc., Ph.D., Professor and Head of Department of Biochemistry.
- Plotnick, Alan Ralph, B.A., M.A., Ph.D., Assistant Professor of Economics (Calgary).
- Stein, William Warner, A.B., Ph.D., Assistant Professor of Anthropology (Calgary).
- James, Robert Lewis, B.A., M.A., Ph.D., Head of the Department of Sociology.
- Garland, George David, B.A.Sc., M.A., Ph.D., F.R.S.C., Associate Head of the Department of Physics.
- Mamo, Plato Salvator, B.A., M.A., Assistant Professor of Philosophy (Calgary).
- Filips, Katherina, M.A., Ph.D., Assistant Professor of Modern Languages.
- Lane, Byron George, B.A., Ph.D., Assistant Professor of Biochemistry.
- Easterbrook, James Arthur, B.A., M.A., Ph.D., Chief Psychologist, Department of Psychiatry.
- Murray, David Moore, B.A., Assistant Professor of Philosophy.
- Bilsland, John Winstanley, B.A., M.A., Ph.D., Assistant Dean of Arts and Science.
- Braben, Donald W., B.Sc., Ph.D., Assistant Professor of Physics.
- Schonbaum, Gregory Richard, B.Sc., Ph.D., Assistant Professor of Biochemistry.
- Bigelow, Charles Cross, B.A.Sc., M.Sc., Ph.D., Assistant Professor of Chemistry.
- Mosquin, Theodore, B.Sc., Ph.D., Assistant Professor of Botany (Calgary).
- Campbell, Donald James, B.Sc., M.S., Ph.D., from Instructor to Assistant Professor of Biochemistry.

Faculty of Commerce

- Leitch, Lorne Campbell, LL. B. , M. B. A. , Associate Professor of Commerce.
- Rollins, Bryce, B. Com. , C. A. , Assistant Professor of Commerce.
- Feltham, Gerald Albert, B. Com. , C. A. , Assistant Professor of Commerce.
- Vance, Maurice Wilfred, B. Com. , C. A. , Assistant Professor of Commerce (Calgary).
- Winter, George Robert, B. Sc. , M. S. , Ph. D. , Assistant Professor of Commerce.
- Saffel, Arnold Oscar, B. Com. , M. B. A. , C. A. , Associate Professor of Commerce.
- Blair, Allan Goudie, B. Sc. , M. B. A. , Assistant Professor of Commerce.

Faculty of Dentistry

- Stewart, Duncan Russel, D. D. S. , Associate Professor of Prosthetic Dentistry, from permanent part-time to permanent full-time staff.
- Sperber, Geoffrey Hilliard, B. Sc. , B. D. S. , M. S. , Assistant Professor of Dentistry.
- Davidson, Gerhard B. , D. D. S. , Associate Professor of Operative Dentistry.
- Blackmore, Robert Valentine, D. D. A. , Assistant Professor of Operative Dentistry to Professor of Dentistry.

Faculty of Education

- Harper, Robert Johnston Craig, M. A. , from Assistant Professor to Associate Professor of Educational Psychology.
- Norris, Stanley, B. Ed. , M. A. , from Assistant Professor to Associate Professor of Education (Calgary).
- Enns, Frederick, B. Ed. , M. Ed. , Ph. D. , Assistant Professor of Educational Administration.
- Berry, Gerald Lloyd, B. A. , M. A. , B. Ed. , Associate Professor of Secondary Education.
- Andrews, Ernest Edgar, M. Ed. , Assistant Professor of Elementary Education.
- Elley, Warwick Bartram, B. A. , M. A. , M. Ed. , Ph. D. , Assistant Professor of Educational Psychology.
- Brown, Alan Fergus, M. Ed. , B. A. , B. Paed. , Assistant Professor of Educational Administration (Calgary).
- Hunka, Stephen, B. Ed. , M. Ed. , Ph. D. , Assistant Professor of Educational Psychology.

- Frost, Barry Philip, B. A., M. A., Assistant Professor of Educational Psychology (Calgary).
- Wilson, Llewellyn Lee, B. A., M. A., Assistant Professor of Elementary and Secondary Education.
- Finn, Stanley Gene, M. A., Ph. D., Assistant Professor of Education (Calgary).
- Worth, Walter Holmes, B. Ed., M. Ed., Ed. D., from Associate Professor of Educational Administration to Professor of Educational Administration and Chairman of Elementary Education.
- Bowen, James Ernest, B. A., M. Ed., Ph. D., Assistant Professor of Education (Calgary).
- Trieger, Seymour, B. A., M. A., Ed. D., Associate Professor of Elementary Education.
- Higgins, John Michael, B. A., M. A., Assistant Professor of Elementary Education.
- Anderson, Robert Newton, B. A., B. Ed., M. A., from Assistant Professor of Secondary Education to Associate Professor of Secondary Education (Calgary).
- Downey, Lawrence William, B. A., Ph. D., from Associate Professor of Educational Administration to Professor and Chairman of Secondary Education.
- Churchley, Franklin Eugene, A. R. C. T., L. R. C. T., Mus. Bac., M. A., Ed. I from Assistant Professor to Associate Professor of Music (Calgary).
- Fritz, John Otto, B. Com., M. A., M. Sc., Ed. D., Associate Professor of Secondary Education.

Faculty of Engineering

- dePaiva, Henry Albert Rawdon, B. S., M. S., Ph. D., Assistant Professor of Civil Engineering (Calgary).
- Thomson, Stanley, B. A. Sc., M. Sc., Assistant Professor of Civil Engineering.
- Nuttall, John Blakely, B. A. Sc., M. A. Sc., D. I. C., Assistant Professor of Civil Engineering.
- Sinnema, William, B. Sc., M. Sc., Assistant Professor of Electrical Engineering.
- Otto, Frederick Douglas, B. Sc., M. Sc., Assistant Professor of Chemical Engineering.
- Stein, Richard Adolph, B. Sc., M. Sc., Assistant Professor of Electrical Engineering.
- Aziz, Khalid, B. Sc., B. Sc., M. Sc., Assistant Professor of Petroleum Engineering.

School of Household Economics

- Miskew, Miss Victoria Catherine, B. Sc., Dietition, University Residences.

Christie, Miss Donna, Dietitian, Calgary.

Faculty of Medicine

- Shnitka, Theodor Khyam, B.Sc., M.Sc., M.D., from Assistant Professor of Pathology to Associate Professor of Pathology.
- Snell, Bernard, L.R.C.P., L.R.C.S., D.P.H., M.R.C.P., L.R.F.P. & S., Honorary Instructor in Preventive Medicine.
- Swallow, Robert James, B.A., M.D., Assistant Professor of Pathology.
- Hagen, Mrs. Eva Odette, M.B., Ch.B., Assistant Professor of Anatomy.
- Wood, Miss Betty Joan, M.D., Instructor in Radiology.
- Bertram, Ewart G., B.A., M.S., Ph.D., from Assistant Professor of Anatomy to Associate Professor of Anatomy.
- Edwards, Allan Manning, B.Sc., M.D., F.R.C.P. (C), Lecturer in Medicine.
- Rodin, Alvin E., M.Sc., M.D., Instructor in Pathology, and also consultant Pathologist to the Surgical-Medical Research Institute.
- Cameron, Donald Forbes, M.B.E., B.A., M.D., from Lecturer to Assistant Professor of Anaesthesia, Assistant Dean, Faculty of Medicine.
- Paul, William M., M.D., F.R.C.S. (C), Professor and Head, Obstetrics and Gynaecology.

School of Nursing

- Tretiak, Salomea, B.A., M.A., Assistant Professor of Nursing.
- Geddes, Madeline Ruth, B.Sc., R.N., Lecturer in Nursing.
- Harrington, Miss Betty Nannette Nixon, B.Nursing, Lecturer in Nursing.

Faculty of Pharmacy

- Palmer, Keith Henry, B.Pharm. M.Pharm. D.U., from Assistant Professor to Associate Professor of Pharmacy.
- Riedel, Bernard Edward, B.Sc., M.Sc., Ph.D., Professor of Pharmacy to be also Executive Assistant to the Vice-President.
- Chatten, Leslie George, M.Sc., Ph.D., Associate Professor of Pharmacy.

School of Physical Education

- Affleck, Alan Ferguson, B.P.H.E., B.Ed., M.S., from Assistant Professor to Associate Professor of Physical Education.
- Howell, Maxwell Leo, D.P.E., M.A., Ed.D., Associate Professor of Physical Education.
- Dewar, John, B.Ed., in Phys.Ed., M.A., Assistant Professor of Physical Education (Calgary).
- Bratton, Robert Dickson, B.S., M.S., Lecturer in Physical Education.
- Power, Miss Kathleen Patricia, B.P.E., Instructor in Physical Education (Calgary).
- Huestis, Miss Donna Kay, B.P.E., Instructor in Physical Education.
- Leiper, Miss Jean Marion, B.P.E., Instructor in Physical Education.

School of Physical and Occupational Therapy

- Rowand, Miss Elizabeth Frances, O.T.R., Lecturer in Physical and Occupational Therapy.

Administration

- Hooper, Major Roland Charles Wilkins, Diploma of Graduation, Adviser to Men Students.
- McDonald, Brian Hugh, B.Com., M.B.A., Assistant to the President.
- Nicol, John, M.A., Assistant to the Principal and Registrar (Calgary).
- Carver, J. William, Business Administrator (Calgary).
- Finn, Theophilus George, B.A., A.M., Ed.D., from Associate Director to Director of Evening Credit Program and Summer Session (Calgary). Professor of Education.
- Fishbourne, James William, B.Com., Secretary, Faculty of Arts and Science.
- Brooks, Delmar Perry, B.Com., C.A., Assistant Accountant.

Student Counselling Services

- Oetting, Eugene Richard, B.Sc., M.Sc., Ph.D., Director, Student Counselling Services (Calgary).
- Furlong, Mrs. Virginia June, M.A., Counsellor in Student Counselling Services.
- Mack, Laurence LeRoy, A.B., B.S., M.S., Counsellor in Student Counselling Services.

Student Health Services

- Elliott, James Francis, B. A., M. D., F. R. C. P. (C), F. A. C. P., Clinical Professor of Medicine, now Director of Student Health Services, and Chief Infirmary Physician.
- McNeil, Donald Lauchlin, M. D., F. R. C. P. (C), F. A. C. P., Director of Student Health Services (Calgary).
- Greenhill, Hon. Stanley, M. D., D. P. H., Professor and Head of Preventive Medicine, formerly also Director of Student Medical Services, now Consulting Physician, Student Health Service.

Library

- Hanlon, Peter Francis Maclean, B. A., B. L. S., Library Assistant (Cataloguing).
- Macleod, Miss Flora, B. A., M. A., B. L. S., Reference Circulation Librarian (Calgary).
- Mielke, Miss Frances, B. A., B. L. S., **Library** Assistant (Education).
- Morgan, Miss Phyllis, B. A., B. L. S., Library Assistant (Cataloguing).
- Reicher, Daniel David, B. A., B. L. S., M. L. S., Chief Cataloguer.
- Thomson, Mrs. June G., B. A., M. A., M. L. S., Periodicals Librarian.
- Auxier, Margaret V., B. A., B. L. S., Library Assistant (Reference).
- Rees, Philip D., B. A., B. Ed., B. L. S., Library Assistant (Orders) (Calgary).
- King, Mrs. Mary Anne, B. A., B. L. S., Library Assistant (Orders).
- Scheffer, Mrs. E. Claire, B. A., B. L. S., Library Assistant (Cataloguing) (Calgary).
- Bednarski, Mrs. Hanna J., M. A., B. L. S., Library Assistant (Circulation).
- Eager, Miss Diane, R. N., B. A., B. L. S., Library Assistant (Reference).
- Smith, Miss Helen M., B. A., B. L. S., Library Assistant (Cataloguing).
- Hyrak, Wasyl, D. Jur., B. L. S., Library Assistant (Cataloguing).

Department of Extension

- Mulloy, Joseph Edward, B. A., B. Com., C. A., Assistant Professor in Public Administration.
- Blain, William Ross, B. A., LL. B., Assistant Professor in Extension.

Computing Centre

- Julius, Robert Stanley, B. A., M. A., Assistant Professor of Numerical Analysis.

APPENDIX IV

LEAVE OF ABSENCE

- Nelson, Leonard Doyal, B. Ed., M. Ed., Associate Professor of Elementary Education.
- Harms, Alvin, B. A., Assistant Professor of French (Calgary).
- Crawford, Douglas Houston, B. Sc., M. A., Ed. B., Assistant Professor of Secondary Education.
- Narayana, Tadepalli, M. A., Ph. D., Associate Professor of Mathematics.
- Steene, Miss Birgitta Kerstin, Fil. Kand., M. A., Ph. D., Assistant Professor of English (Calgary).
- Norris, Stanley, B. Ed., M. A., Associate Professor of Education (Calgary).
- Fish, Mrs. Margaret Trotter, B. Sc., M. D., Associate Professor of Anatomy.
- Frache, Mrs. June, B. Sc., B. Ed., Assistant Professor of Physical Education.
- Arnold, Armin Herbert, B. A., Dr. Phil., Assistant Professor of German.
- Hendrickson, Miss Mary Pauline, B. A., B. P. E., Assistant Professor of Physical Education (Calgary).
- Greene, Gordon Kay, A. Mus., B. A., B. Ed., Assistant Professor of Music in Extension and Fine Arts.
- Brooker, Elmer Whitmore, B. Sc., M. Sc., Assistant Professor of Civil Engineering.
- Baadsgaard, Halfdan, B. S., Ph. D., Associate Professor of Geology.
- Kyle, John David, Grad. Dip., B. A., M. B. A., Assistant Professor of Business Administration.
- MacKenzie, Miss Margery Walker, B. A., B. Ed., A. M., Assistant Professor of Classics.
- Swallow, Miss Kathleen, B. Sc., M. D., Assistant Clinical Professor of Paediatrics.
- Bell, Harold Edwin, B. Sc., M. D., Lecturer in Clinical Pathology and Sessional Instructor in Biochemistry.
- MacKenzie, Walter Campbell, B. Sc., M. D., C. M., M. S., F. A. C. S., F. R. C. S., (C), Dean of Medicine.
- Hanson, Eric John, B. A., M. A., Ph. D., Professor and Head of Political Economy.
- Fee, Alan Douglas, D. D. S., Assistant Professor of Prosthetic Dentistry.
- Fair, Donald Clarence, B. Ed., Counsellor, Student Counselling Services.
- Smith, Warren Edward, B. Sc., M. Sc., Ph. D., Associate Professor of Genetics and Plant Breeding.

APPENDIX V

RETIREMENTS

Keeping, Ernest Sydney, B.Sc., A.R.C.S., D.I.C., Professor and Head of the Department of Mathematics.

McDougall, W. D., M.A., Ed.D., Professor and Head, Division of Elementary Education.

Cook, A. J., B.Sc., A.M., Ph.D., Professor and Director of Student Counselling Services.

Doucette, A. L., B.Sc., M.A., Ed.D., Associate Dean of Faculty of Education (Calgary).

APPENDIX VI

DECEASED

Unrau, J., B.S.A., M.Sc., Ph.D., Professor and Head, Department
of Plant Science.

APPENDIX VII

RESIGNATIONS

- Malone, J. J., M. A., Ph. D., Assistant Professor of History.
- Jones, John Thomas, B. A., M. A., Professor and Head of Department of English (resigning from Chairmanship of Department only).
- Ball, A. G., B.S.A., M.S., Ph. D., Professor of Farm Management.
- Gillis, C. N., B.Sc., Ph. D., Assistant Professor of Pharmacology.
- Pritchard, E. T., B.Sc., M.Sc., Ph. D., Assistant Professor of Biochemistry.
- Collier, Herbert Bruce, M. A., Ph. D., Professor and Head of Department of Biochemistry (as Head of Department only).
- Gordon, Moyna J., M. C. S. P.; C. S. P., Assistant Professor of Physical Therapy and Occupational Therapy.
- McMillan, Miss Patricia, B.Sc., M. A., R. N., Assistant Professor of Nursing.
- Stinson, Miss Shirley M., B.Sc., M. N. A., R. N., Lecturer in Nursing, and Warden of Pembina Hall.
- Gillingwater, Miss Doreen Amy, Dip. Phys. Ed., Instructor in Physical Education.
- Robinson, R. O. A., M. A., Ph. D., Associate Professor of Mathematics.
- Brock, Peter de B., M. A., D. Phil., Ph. D., Assistant Professor of History.
- Hart, Richard Tamplin, M.S., Associate Professor of Chemical Engineering.
- Gowda, Melvina M., B.Sc., Lecturer in Household Economics.
- Rankin, Alastair Semple, C. A., B.Sc., Assistant Professor of Accounting.
- Zmurkevych, Mrs. Stephanie, M. A., Ph. D., B. L. S., Library Assistant (Reference).
- Chanal, Hubert Ferdinand, LèsL., Assistant Professor of Russian.
- Campbell, John Douglas, M. Com., C. A., Professor of Accounting.
- Furman, Mrs. Gertrude, B. A., B. S. W., M. S. W., Lecturer in Social Work, Department of Preventive Medicine.
- Thompson, James Scott, M. A., M. D., Professor of Anatomy and Assistant Dean of Medicine (as Assistant Dean only).
- Arnold, Armin Herbert, B. A., D. Phil., Assistant Professor of German.
- Potter, George Thomas, B. A., Associate Director of Extension (Calgary).
- Carrier, Lois J. (Miss), B. A., B. L. S., Library Assistant (Reference).
- McNeal, Robert Hatch, A. B., A. M., Ph. D., Associate Professor of History.
- Crawford, Douglas Houston, B.Sc., M. A., Ed. B., Assistant Professor of Secondary Education.
- French, Cecil Lynn, A. M., Ph. D., Assistant Professor of Sociology.
- Macleod, Miss Flora, B. A., M. A., B. L. S., Reference-Circulation Librarian (Calgary).

APPENDIX VIII

TABLE
Student Registration
SUMMARY OF TOTALS

	Males		Females		TOTALS	
	60-61	61-62	60-61	61-62	60-61	61-62
PART I WINTER SESSION						
Section A - <u>Full-Time Day</u> - Division I-Edmonton	4225	4672	2156	2423	6381	7095
Division II - Calgary	659	915	413	550	1072	1465
Section B - <u>Part-Time Day</u> - Division I-Edmonton	64	55	60	64	124	119
Division II - Calgary	99	83	119	94	218	177
Section C - <u>Part-Time</u> - <u>Evening Credit Program</u>	401	537	490	653	891	1190
Section D - <u>Special Students</u> - Daytime	108	134	68	77	176	211
Evening Cr. Program	53	89	40	45	93	134
PART II SUMMER SESSION 1961						
	1612	1805	2207	2480	3819	4285
PART III SHORT COURSES 1961 - 62						
	-	-	9	14	9	14
GRAND TOTAL.....						
	7221	8290	5562	6400	12783	14690

PART I - Winter Session 1961-62

SECTION A - FULL TIME STUDENTS

Division I - Edmonton Campus

	1st Yr.		2nd Yr.		3rd Yr.		4th Yr.		5th Yr.		Total	
	61-62		61-62		61-62		61-62		61-62		61-62	
	M	F	M	F	M	F	M	F	M	F	60-61	61-62
Arts and Science												
B.A.	148	136	150	94	127	82	22	7	-	-	625	766
B.Sc.	272	51	218	34	153	21	39	4	-	-	743	792
B.A., B.Com.	-	-	-	-	-	-	-	-	-	-	-	-
B.A., LL.B.	59	4	13	2	-	-	-	-	-	-	48	78
Pre-Dent	66	2	-	-	-	-	-	-	-	-	49	68
B.A. after prev. degree	-	-	1	-	-	-	-	-	1	-	1	2
B.Sc. "	-	-	-	-	-	-	-	-	-	-	1	-
Dip. in Art	-	1	-	1	1	1	1	-	-	-	5	5
B. Mus.	1	-	2	6	3	1	-	-	-	-	15	13
B.A., B.Sc., (Engineering)	-	-	1	-	-	-	-	-	-	-	1	1
Sub-Totals, Arts & Science	546	194	385	137	284	105	62	11	1	-	1488	1725
Agriculture	40	4	30	-	31	1	34	-	-	-	116	140
Commerce	134	3	78	3	76	4	6	-	-	-	257	304
Dentistry	50	2	44	-	33	-	32	-	-	-	136	161
Dent. Aux.	-	18	-	-	-	-	-	-	-	-	-	18
Sub-Totals, Dentistry	50	20	44	-	33	-	32	-	-	-	136	179
Education	262	341	244	366	103	91	63	53	-	-	1156	1523
B.Ed.	1	-	1	-	-	-	-	-	-	-	-	2
B.Ed. in Ind. Arts	1	-	2	-	-	-	89	53	-	-	107	145
B.Ed. after prev. degree	81	157	1	-	-	-	-	-	-	-	216	239
Junior E.	345	498	248	366	103	91	152	106	-	-	1479	1909
Sub-Totals, Education												
Engineering												
Civil	-	-	55	-	69	-	70	-	-	-	237	194
Chemical	-	-	32	-	26	-	36	1	-	-	104	95
Electrical	-	-	66	-	45	-	84	-	-	-	200	195
Mining	-	-	-	-	3	-	-	-	-	-	12	3
Petroleum	-	-	2	-	7	-	6	-	-	-	25	15
Eng. Physics	-	-	-	-	8	-	11	-	-	-	24	19
Eng. Geology	-	-	-	-	-	-	-	-	-	-	-	-
Metallurgical	-	-	8	-	7	-	10	-	-	-	21	25
Mechanical	-	-	44	-	37	-	33	-	-	-	114	114
Not specified	218	2	6	-	3	-	-	-	-	-	259	229
Sub-Totals, Engineering	218	2	213	-	205	-	250	1	-	-	996	889

Household EconomicsLawMedicine

M.D.
B.Sc. in Med. Lab. Sc.

Sub-Totals, MedicineNursing

B.Sc
Diploma
Dip. in Public Health
Dip. in T. & S.

Sub-Totals, NursingPharmacyPhysical & Occupational TherapyPhysical EducationGraduate Studies

M.Sc. (Phys. Ed.)
M.A.

M.Sc. (Arts)

M.Sc. (Agric)

M.Sc. (Engin.)

M.Sc. (House Ec.)

M.Sc. (Pharm)

M.Ed.

M.Sc. (Med)

Ph.D.

Ed. D.

Provisional Candidate

Conditional or Provisional Grad.

Special Grad.

Sub-Totals, Graduate StudiesBachelor of DivinityTOTALS EDMONTON CAMPUS

1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	Total
61-62	61-62	61-62	61-62	61-62	60-61 61-62
M F	M F	M F	M F	M F	60-61 61-62
- 27	- 33	- 27	- -	- -	89 87
48 2	42 4	33 -	- -	- -	120 129
61 10	56 7	36 3	50 3	- -	213 226
3 22	2 19	- 11	- -	- -	43 57
64 32	58 26	36 14	50 3	- -	256 283
- 39	- 26	- 17	- 22	- 22	129 126
- 138	- 99	- 93	- -	- -	338 330
- -	- -	- -	- -	- 16	18 16
- -	- -	- -	- -	- 12	25 12
- 177	- 125	- 110	- 22	- 50	510 484
36 25	32 27	45 27	- -	- -	201 192
- 19	- 20	- -	1 -	- -	54 40
27 10	34 4	35 8	- -	- -	105 118
1					4
67					104
47					113
18					8
54					70
-					1
3					4
95					62
12					11
59					89
1					-
100					93
51					2
49					49
557					610
17					6
6381					7095

[illegible]

PART I (WINTER SESSION 1961-62)

SECTION B - PART-TIME STUDENTS - DAYTIME CLASSES

DIVISION I - EDMONTON CAMPUS

Arts & Science
Agriculture
Commerce
Dentistry
Education
Engineering
Household Economics
Nursing (B.Sc.)
Pharmacy
Physical Education
Medicine
Graduate Studies

DIVISION II - CALGARY CAMPUS

Graduate Studies
Nursing
Arts and Science
Commerce
Education
Engineering
Medicine (B.Sc. in M.L.S.)
Pharmacy
Physical Education

Totals - Division I

Totals - Division II

GRAND TOTAL - SECT. B - PART-TIME STUDENTS - DAYTIME CLASSES

SECTION C - PART-TIME STUDENTS - EVENING CREDIT PROGRAM

Arts & Science - Acme
Edmonton
Calgary
Camrose
Holden
Red Deer
Trochu
Vegreville
Westlock
Wetaskiwin
Olds
Lethbridge
Red Deer
Wainwright

Agriculture - Edmonton

	Males		Females		TOTALS	
	60-61	61-62	60-61	61-62	60-61	61-62
Arts & Science	27	30	27	30	54	60
Agriculture	1	-	-	-	1	-
Commerce	3	7	-	-	3	7
Dentistry	1	-	-	-	1	-
Education	12	9	25	28	37	37
Engineering	7	2	-	-	7	2
Household Economics	-	-	1	-	1	-
Nursing (B.Sc.)	-	-	2	2	2	2
Pharmacy	13	4	4	1	17	5
Physical Education	-	-	1	1	1	1
Medicine	-	1	-	2	-	3
Graduate Studies	-	2	-	-	-	2
Totals - Division I	64	55	60	64	124	119

	Males		Females		TOTALS	
	60-61	61-62	60-61	61-62	60-61	61-62
Graduate Studies	-	-	-	1	-	1
Nursing	-	-	2	2	2	2
Arts and Science	19	11	26	18	45	29
Commerce	1	2	-	1	1	3
Education	76	70	90	72	166	142
Engineering	1	-	-	-	1	-
Medicine (B.Sc. in M.L.S.)	-	-	1	-	1	-
Pharmacy	1	-	-	-	1	-
Physical Education	1	-	-	-	1	-
Totals - Division II	99	83	119	94	218	177
GRAND TOTAL - SECT. B - PART-TIME STUDENTS - DAYTIME CLASSES	163	138	179	158	342	296

	Males		Females		TOTALS	
	60-61	61-62	60-61	61-62	60-61	61-62
Arts & Science - Acme	-	1	-	-	-	1
Edmonton	56	55	39	48	95	103
Calgary	8	19	6	18	14	37
Camrose	2	-	3	1	5	1
Holden	-	-	-	-	-	-
Red Deer	1	-	2	-	3	-
Trochu	-	-	-	-	-	7
Vegreville	-	7	-	-	-	-
Westlock	-	-	-	-	-	-
Wetaskiwin	1	-	-	1	1	1
Olds	-	-	1	-	1	1
Lethbridge	-	1	-	-	-	1
Red Deer	-	3	-	-	-	3
Wainwright	-	-	-	1	-	1
Total	68	86	51	69	119	155
Agriculture - Edmonton	1	-	-	-	1	-

SECTION C - PART-TIME STUDENTS - EVENING CREDIT PROGRAM (Con't)

	Males		Females		TOTALS		
	60-61	61-62	60-61	61-62	60-61	61-62	61-62
<u>Commerce</u> -							
Edmonton	13	11	3	-	16	11	
Calgary	2	3	-	-	2	3	
Total	15	14	3	-	18	14	
<u>Education</u> -							
Acme	-	6	-	10	-	16	
Radway	8	-	10	-	18	-	
Edmonton	157	162	237	261	394	423	
Calgary	49	97	62	101	111	198	
Camrose	9	11	7	10	16	21	
Holden	12	21	15	17	27	38	
Lethbridge	-	20	-	20	-	40	
Red Deer	21	18	33	39	54	57	
Trochu	5	-	4	-	9	-	
Vegreville	19	24	15	8	34	32	
Westlock	1	-	11	-	12	-	
Wetaskiwin	5	7	5	3	10	10	
Medicine Hat	6	18	3	31	9	49	
Wainwright	5	9	17	18	22	27	
Olds	4	4	11	25	15	29	
Radway	-	11	-	15	-	26	
Wetaskiwin	-	10	-	14	-	24	
Total	301	418	430	572	731	990	
<u>Engineering</u> -							
Edmonton	4	1	-	-	4	1	
Total	4	1	-	-	4	1	
<u>Household Economics</u> -							
Edmonton	-	-	-	1	-	1	
Vegreville	-	-	-	-	-	-	
Total.....	-	-	-	1	-	1	
<u>Nursing</u> -							
Edmonton	-	-	3	1	3	1	
Calgary	-	-	1	3	1	3	
Total.....	-	-	4	4	4	4	
<u>Bachelor of Divinity</u> -							
Edmonton	-	-	-	-	-	-	
Total.....	-	-	-	-	-	-	
<u>Physical Education</u> -							
Red Deer	-	-	-	1	-	1	
Edmonton	1	1	-	-	1	1	
Total.....	1	1	-	1	1	2	

SECTION C - PART-TIME STUDENTS - EVENING CREDIT PROGRAM (CONTINUED)

	Males		Females		TOTALS	
	60-61	61-62	60-61	61-62	60-61	61-62
Graduate Studies -						
Calgary - M.Ed.	-	1	-	1	-	2
Edmonton- M.A.	-	2	-	3	-	5
M.Ed.	9	11	2	-	11	11
M.Sc.		1		1		2
Prov. Ph.D.		2		1		1
Special Grad.				1		2
Camrose - M.Ed.	1		-		1	
Radway - M.Ed.	1		-		1	
Vegreville - M.Ed.	-		-		-	
Total.....	11	17	2	6	13	23
GRAND TOTAL - SECTION C	401	537	490	653	891	1190

SECTION D -- SPECIAL STUDENTS

Regular Winter Session	
Edmonton	89
Calgary	19
Total	108

Evening Credit Program

Edmonton	36	62	26	32	62	94
Calgary	11	14	3	10	14	24
Holden	-		2	-	2	
Lethbridge	-	1	-	-	-	1
Red Deer	2	2	4	2	6	4
Vegreville	-	2	-	-	-	2
Westlock	-	3	-	-	-	3
Wetaskiwin	-	2	1	-	1	2
Medicine Hat	1	1	1	1	2	2
Camrose	1	2	1	-	2	2
Olds	-		2	-	2	
Radway	2		-	-	2	
Total	53	89	40	45	93	134
GRAND TOTAL - SECTION D	161	223	108	122	269	345

GRAND TOTAL - PART I	5609	6485	3346	3906	8955	10391
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PART II

SUMMER SESSION 1961

Edmonton
Banff School - University Credit
Non-credit courses

TOTAL - PART II -----

	<u>Males</u>		<u>Females</u>		<u>TOTALS</u>	
	60-61	61-62	60-61	61-62	60-61	61-62
	1395	1646	1590	1893	2985	3539
	12	7	33	15	45	22
	205	152	584	572	789	724
	1612	1805	2207	2480	3819	4285

PART III

SHORT COURSES 1961-62

Diploma in Advanced Practical Obstetrics

TOTAL PART III -----

-	-	9	14	9	14
-	-	9	14	9	14

APPENDIX IX

GIFTS

- From Health Research Inc. \$4,040 grant for research under the direction of Dr. C. M. Couves.
- From the John and Mary R. Markle Foundation, \$6,000 grant for Scholar in Medical Science for year commencing July 1, 1961.
- From the Medical Research Council, \$25,000 to the Common Grant Account for 1961-62.
- From the Canadian Cancer Society, Alberta, \$3,400 grant for summer scholarships in the Faculty of Medicine.
- From the Alberta Home Economics Association, \$300 to the Mabel Patrick Scholarship Fund.
- From the Medical Research Council, \$3,000 representing the second advance towards the 1961-62 portion of Dr. D. C. Triantaphyllopoulos' salary.
- From the Chemical Institute of Canada, \$250 grant to each of the Departments of Chemical and Petroleum Engineering and the Department of Metallurgy for travelling expenses of professors attending the XVIII International Congress of Pure and Applied Chemistry, August 6-12, 1961. This grant is for use by those not applying for University Travel grants.
- From the National Research Council, \$70,000 to the Common Grant Account for 1961-62.
- From Dowell of Canada Ltd., \$700 grant for research in the Department of Chemical and Petroleum Engineering under the direction of Dr. D. B. Robinson.
- To the Banff School of Fine Arts Scholarship Fund: Students' Council of the Banff School of Advanced Management, 12th Session, 1961, \$700; Banff Community, \$100; Students' Union, Victoria Composite School, \$100; Edmonton Branch, Canadian Women's Press Club, \$250; Alberta Provincial Chapter of I. O. D. E., \$300; Miss Marilyn Perkins, \$25; Nickle Foundation, \$1,500; Miss M. Ramsay, \$25; Calgary Branch, Canadian Women's Press Club, \$250; Alberta Hotel Association, \$3,000.

To the Banff Foundation: R. A. Cassels, \$20; Gordon Hunt, \$100; James E. McIlroy, \$100; Gordon E. McIlroy, \$100; W. P. Wensley, \$100.

From General Electric Company, a 12-volume set of scientific papers of the late Irving Langmuir.

From the Alberta Heart Foundation, \$7,975, being the 1st quarterly instalment on research grants.

From Atomic Energy of Canada Limited, \$12,000 being continuation of grant for research in the Department of Mining and Metallurgy under the direction of Dr. J. G. Parr.

From the Life Underwriters Association Training Class, \$55 to the University of Alberta.

From C. W. Carry, \$1,000 grant for medical research.

From Edcal Industrial Agents Ltd., \$750 grant for medical research.

From Robin Hood Flour Mills Limited, \$400 grant for research on soft white spring wheat in the Department of Plant Science.

From Sugar Research Foundation Inc., \$2,500 being the 1st quarterly payment of grant for research under the direction of Dr. R. U. Lemieux.

From the Muscular Dystrophy Association of Canada, \$1,286 being the third instalment of grant for research under the direction of Dr. C. M. Kay.

From Sherritt Gordon Mines Limited, \$1,500 grant for research in the Department of Soil Science.

From Harrisons and Crosfield (Canada) Ltd., \$500 grant for research in the Department of Soil Science.

From the Canadian Life Insurance Officers' Association, \$2,750 being the first instalment of the Association's fellowship and grant re Dr. L. J. Clein.

From Frank W. Hoskyn, \$50 to the African Students' Fund.

From the Maple Leaf Milling Division, \$400 grant for soft white spring wheat research in the Department of Plant Science.

From the Foundation for Dental Education (Alberta), \$1,318.07 grant to the Fund for Dental Education.

From the W. K. Kellogg Foundation, \$26,500 grant for extended project in educational administration, 1961.

- From the Brewing and Malting Barley Research Institute, \$4,000 grant for barley research in the Department of Plant Science.
- From the Canadian Cancer Society, Alberta Division, \$900 fellowship for Dr. Frank Turner under the direction of Dr. C. M. Couves - 1st instalment.
- From Corn Industries Research Foundation, \$3,558 re Dr. R. U. Lemieux.
- From Bristol Laboratories, \$1,767.45 re Dr. R. U. Lemieux.
- From Mrs. A. M. Manley, \$100 re the H. M. Manley Memorial Scholarship, 1961 at the Banff School of Fine Arts.
- From the Alberta Square Dance Institute, \$300 contribution to the Banff School of Fine Arts Development Fund.
- To the Banff School of Fine Arts Scholarship Fund: Harry S. Craig, \$100; Banff Camera Shop Ltd., \$50; Banff Rotary Club, \$100; Mr. and Mrs. J. Dulmage, \$100; Mr. L. S. Crosby, \$200; Radio Station C.F.A.C. Calgary, \$500.
- From the Alcoholism Foundation of Alberta, \$1,500 for research on Hutterites under the direction of Dr. J. A. Hostetler.
- From Mr. G. C. Field, a set of the Tax Appeal Board Cases, volumes 1-25, plus continuation of subscription.
- From the Medical Research Council, \$45,000 being the third instalment to the Common Grant Account for 1961-62.
- From the Medical Research Council, \$2,700 being the remainder of Dr. D. C. Triantaphyllopoulos's salary for the year ending March, 1962.
- From the National Research Council, \$2,000 in payment of grant for equipment and other research expenses re Dr. K. E. Westerskov's Fellowship.
- From the Life Insurance Medical Research Fund, grants for research under the direction of Dr. L. B. Smillie, \$7,700; Dr. C. M. Kay, \$8,800; Dr. E. E. Daniel, \$8,800.
- From Precision Machine & Equipment Limited, Calgary, \$500 donation to the University of Alberta, Calgary.
- From Imperial Oil Limited, \$1,000 grant for continued support of research under the direction of Dr. D. B. Robinson.

From Senator D. Cameron, \$150 contribution to the Banff School of Fine Arts Scholarship Fund.

From Mr. A. P. Southworth, \$50 contribution to the Banff Foundation.

From the National Research Council, \$150,000 to the Common Grant Account for 1961-62.

From the Canada Department of Agriculture, accountable advances for research under the direction of Dr. G. R. Walker, \$7,290; Dr. F. W. Wood, \$21.50; Dr. D. R. Clandinin, \$290; Dr. L. F. Clegg, \$1,750.

From the Canada Council, \$2,500 to be used in support of purchases for books on Slavonic Studies for the University Library.

From Canada Gamma Chapter of the Delta Delta Delta Fraternity, the proceeds of the sale of their fraternity house, made up of \$9,893.11 cash and \$9,862.35 being the amount owing on an Agreement for Sale. (The house was sold after the Chapter's charter was withdrawn in 1959.)

From the California Standard Company, \$650 contribution to the Petroleum Production and Reservoir Engineering Research Project.

From the Muscular Dystrophy Association of Canada: \$1,500 being the first instalment of award to Dr. J. Brahms under Dr. C. M. Kay; \$1,286 grant for research under Dr. C. M. Kay; \$750 research fellowship for W. A. Green under direction of Dr. C. M. Kay.

From the Alberta Heart Foundation, \$7,975 grant being the second quarterly instalment for research under the direction of Drs. Callaghan, Couves, Elliot, Kowalewski and Triantaphyllopoulos; \$3,000 award for research under the direction of Dr. J. Brahms (Mr. Whidden will check the total amount of the award to Dr. Brahms from the Alberta Heart Foundation).

From Eldorado Mining and Refining Limited, \$7,300 being the second and final instalment on research grant for project under the direction of Prof. Lilge.

From the National Cancer Institute of Canada, \$8,400 being the final payment of Institute's 1961-62 awards.

From Proctor and Gamble Company, \$5,000 initial grant for "Dentrifrice Study Project" under the direction of Drs. Zacherl and Maclean.

- From the National Heart Foundation of Canada \$1,750 being the second quarterly instalment of research associateship for Dr. E. C. Elliot, 1961-62; \$1,500 being the 1st quarterly instalment of fellowship for Dr. R. F. Shaner, 1961-62.
- From Cyanamid of Canada Limited, \$1,500 grant for research in the Department of Animal Science.
- From the Banting Research Foundation, \$600 grant for research under the direction of Dr. L. B. Erikson.
- From the Department of Mines and Technical Surveys, \$6,770 covering Geological Survey of Canada grants for research in the Department of Geology.
- From the Edmonton Home Economics Association, \$400 to the Mabel Patrick Scholarship Fund.
- From the Edmonton Academy of Medicine, \$150 to the Rutherford Library for the purchase of medical books.
- From the Centre d'Information du Cobalt S. A., \$1998.75 grant for research under the direction of Dr. J. G. Parr.
- From Ortho Pharmaceutical (Canada) Ltd., \$400 grant for clinical research under the direction of Dr. C. M. Couves.
- From Bristol Laboratories, \$10,000 (U. S.) grant for research under the direction of Dr. R. U. Lemieux.
- From the Department of National Defence, accountable advance for research under the direction of Dr. J. Tuba, \$4,625.
- From the Edmonton Life Managers' Association, \$40 contribution to the University of Alberta (President's Trust Fund).
- To the University of Alberta, Calgary: G. L. Munro, \$15.00 (for African students' scholarships); Progressive Conservative Association, \$300 (to Political Science Seminar); N. D. McDermid, \$300.
- To the Banff School of Fine Arts Scholarship Fund: D. S. Harvie, \$50; Eric L. Harvie, \$100.
- From Mr. H. V. Kohler, \$1,000 to the Banff Foundation.
- From the Physical Education Students' Society, \$500 to the Physical Education Library.
- From Merck, Sharp & Dohme of Canada Limited, \$200 to the Faculty of Medicine.

From Dr. J. F. Reid, \$50 to the Medical Class of 1941 Loan Fund.

From the Sugar Research Foundation Inc., \$2,500 in continued support of research under the direction of Dr. R. U. Lemieux.

From the Canadian Cancer Society, \$1,800 for fellowship to Dr. F. Turner for research under the direction of Dr. C. M. Couves.

From the Canadian Foundation for Poliomyelitis & Rehabilitation, Alberta Chapter, \$200 to the Rutherford Library for purchase of books for the Medical Reading Room.

From Mr. Donald Harvie, \$200 to the University of Alberta, Calgary.

From Mr. C. W. Carry, \$1,750 in continued support of medical research.

From Miss Marion Sutherland, \$1,500 to the African Student Scholarships Fund.

From the National Research Council, \$2,000 re the first year of Dr. S. Zivkovic's fellowship.

From the National Research Council, \$154,705 to the 1961-62 Common Grant Acct.

From the Medical Research Council, \$48,000 to the 1961-62 Common Grant Acct.

From Bristol Laboratories, \$20,000 grant for research under the direction of Dr. R. U. Lemieux.

From the Alberta Pharmaceutical Association, an antique pharmacy show globe and a set of old style chemical bottles.

From the Graduating Class of 1961, two coffee tables.

From Geigy Pharmaceuticals, \$2,600 grant for research under the direction of Dr. J. C. Callaghan; \$3,000 grant for Persantin Research project under the direction of Dr. Kowalewski.

From the National Institutes of Health, \$11,920 grant for research under the direction of Dr. Ada Jacobson.

From Ellison Milling & Elevator Company Ltd., \$250 grant in continued support of soft wheat research program in the Department of Plant Science.

From Merck, Sharp & Dohme of Canada Ltd., \$200 grant to the Faculty of Medicine.

- From American Zinc Institute, \$1,253.12 in continued support of research under the direction of Dr. J. G. Parr.
- From the Muscular Dystrophy Association of Canada, \$750 representing the second instalment of research fellowship for W. A. Green.
- From the Edmonton Civic Employees' Welfare Chest Fund, \$2,000 in continued support of neuromuscular research under the direction of Dr. G. Monckton.
- From the National Heart Foundation of Canada, \$1,500 being the second instalment of fellowship for Dr. R. F. Shaner.
- From the United Grain Growers Limited, \$5,000 in continued support of research in the Department of Plant Science.
- From the University of California, \$10,200 (U.S. Funds) initial grant for Clinical Drug Evaluation Program under the direction of Dr. H. B. McCarten.
- From the Ohio Oil Co., \$1,000 (U.S.) grant for research under the direction of Dr. Govier.
- From DuPont of Canada Ltd., \$5,000 grant for fundamental research in the Department of Chemistry.
- From the Shevchenko Foundation, \$50 contribution to the Gonsett Memorial Library.
- From Bristol Laboratories, \$10,000 (U.S.) in continued support of research under the direction of Dr. R. U. Lemieux.
- To the Banff Foundation: H. L. Nutt, \$100; Imperial Oil Limited, \$5,000.
- From the Woods Foundation, \$10,000 grant to the Banff Foundation Library.
- To the University of Alberta, Calgary: Standard Holdings Limited, \$500; Moraine Investment Corporation Ltd., \$500; Shell Oil Company of Canada Ltd., \$400; The Southam Company Limited, \$1,000; Messrs. Cohen, \$500; International Nickel Company of Canada Ltd. \$1,000; Calgary Power Limited, \$1,000.
- From the Department of National Defence, accountable advances for research under the direction of Dr. Buckmaster, \$3,334; Dr. Cragg, \$2,130; Dr. Hocking, \$2,300; Dr. Parr, \$15,000; Dr. Gunning, \$6,667; Dr. Hocking, \$1,891; Dr. Nash, \$6,584.

From the Canada Department of Agriculture, accountable advances for research under the direction of Dr. Walker, \$5,210; Dr. Wood, \$1,550; Dr. Clandinin, \$210; Dr. Clegg, \$1250.

From the National Museum, \$400 re Dr. G. O. Mackie.

To the Medical Class of 1941 Loan Fund: Drs. D. J. Moffat, \$50; A. D. Dobson, \$50; G. R. Blott, \$50; F. W. Christie, \$50; T. W. Garrison, \$50; W. R. Bell-Smith, \$50; W. J. Cadzow, \$50; C. H. Smith, \$50; N. Nix, \$50; J. W. Hunt, \$50; J. H. Young, \$50.

From Ciba Company Limited, \$2,000 grant for research under the direction of Dr. K. Kowalewski.

From The Proctor & Gamble Company, a further grant of \$5,000 in support of the "Dentifrice Study Project" under the direction of Drs. Maclean and Zacheri.

From the Red Deer Advocate Limited, \$100 to the President's Fund.

From Mr. A. R. Craig, \$250 grant to the Metabolic Library.

From Mr. N. D. McDermid, \$500 grant to the University of Alberta.

From the Canadian Cancer Society, Alberta Division, \$500 donation to the Medical Library.

From the Canada Trust Company, \$7,500 legacy from the Estate of Dr. Geneva Misener.

To the University of Alberta, Calgary: The Calgary Herald, \$1,000; Calgary Power Limited, \$1,000; The Albertan, \$1,000.

From the Muscular Dystrophy Association of Canada, \$1,500 being the second instalment of the Association's research fellowship to Dr. J. Brahms.

From the National Science Foundation, \$7,800 grant (\$8,146.12 Can. funds) for research under the direction of Dr. R. F. Ruth.

From the Muscular Dystrophy Association of Canada, \$1900 renewal of grant-in-aid of research under the direction of Dr. C. M. Kay.

From Mrs. J. L. Sutherland, \$40 donation to the University.

From the Appraisal Institute of Canada, \$100 contribution to the Department of Extension.

From the Alberta Heart Foundation, \$9,475 representing third quarterly payments on research grants.

- From the Consolidated Mining and Smelting Company of Canada Limited,
\$2,200 grant for research study in the Department of Soil Science.
- From the National Heart Foundation of Canada, \$1,750 representing the
third quarterly instalment on Research Associateship for Dr. E. C.
Elliot, 1961-62.
- To the Banff Foundation: F. A. Robinson, \$100; G. Faget, \$25; J. E. Wood,
\$100; Alberta Wheat Pool, \$1,000; Lyle Manery, \$100.
- From Dr. G. A. Gaherty, \$5,000 to the Faculty of Engineering.
- From the Department of National Defence, \$6,584 accountable advance for
research under the direction of Dr. C. W. Nash.
- From the National Research Council, \$2,200 to the Common Grant Account
for 1961-62; \$1,000 re Dr. L. Ferguson's fellowship.
- From the Medical Research Council, \$21,704.54 being the final instalment
of the Medical Common Grant Account for 1961-62.
- From Alberta Phoenix Tube & Pipe Limited, \$1,000 to the World Univer-
sity Service.
- From the Royal Astronomical Society of Canada, Edmonton, Centre, one
12 1/2" reflecting telescope.
- From Fisher Scientific Co. Limited, a Freez-Dry Instrument for the
Faculty of Medicine.
- From Western Canada Ropes, \$100 to the President's Fund.
- From the Canadian Life Insurance Officers Association, \$2,750 final in-
stalment of Dr. Clein's fellowship and grant-in-aid.
- From the Sugar Association Inc., \$2,500 grant for research under the
direction of Dr. R. U. Lemieux.
- From Abbott Laboratories, \$1,000 grant for research under the direction
of Dr. F. C. Haley.
- From Pfizer Canada, \$10,000 grant for research under the direction of
Dr. J. S. Colter.
- From the City of Edmonton, \$250 grant to assist University students in
attendance at 1962 WUS Seminar in Poland.
- From Mrs. D. S. Harvie, \$100 to the University of Alberta, Calgary.
- From C. W. Carry, \$1,750 for medical research.

- From the National Research Council, \$2,000 re first year of M. E. Philcox's Fellowship.
- From Frank W. Horner Limited, \$750 grant to the Department of Biochemistry, for library books, 1962.
- From Pacific Petroleum Limited, \$1,000 to the University of Alberta, Calgary.
- From Winspear Foundation, \$500 to the Banff Foundation.
- From the Performing Arts in Canada, \$11 to the Banff School of Fine Arts Scholarship Fund.
- From the Research Council of Alberta, Volumes 4 and 5 (1910 and 1911) of Chemical Abstracts for the Physical Sciences Library.
- From Messrs. Manley and Cawsey, Volumes 1-72 of the Dominion Law Reports, to the Law Library.
- From Mrs. Irene Gonsett, models of inventions of the late R. R. Gonsett.
- From Mr. Charles Plavin, \$17,000.
- From the Canadian Chemical Company Ltd., \$1,500 grant to the Department of Chemical and Petroleum Engineering, for 1961-62.
- From Maple Leaf Mills Limited, \$400 grant to the Department of Plant Science for their soft white spring wheat research project.
- From the Edmonton Civic Employees' Welfare Chest Fund, \$2,400 grant for three summer fellowships in Medicine for heart research.
- From the Banting Research Foundation, \$600 being the final payment of grant to Dr. L. B. Erikson for research project.
- From the Canada Council, \$2,500 representing the second instalment of the Council's grant to the University of Alberta for the specialized library in Slavonic Studies.
- From the Department of National Defence, accountable advances for research under the direction of Dr. Hocking, \$1,800, and \$2,669; Dr. Heath, \$6,417; Dr. Cragg, \$2,000.
- From the National Heart Foundation of Canada, \$1,500 being the third quarterly instalment on fellowship for Dr. R. F. Shaner.
- From Mr. and Mrs. H. Barabash, \$200 towards Cancer Chemotherapy under Dr. A. B. McCarten.

- From the Coal Operators' Association of Western Canada, \$300 grant-in-aid for project on coal studies under the direction of Professor T. Patching.
- From P. O. MacAnulty, \$150 to the New Canadian Bursary Fund.
- From the Muscular Dystrophy Association of Canada, \$750 being the third instalment of the Association's fellowship to W. Green.
- From the Life Insurance Medical Research Fund, \$1,439.59 grant for research under the direction of Dr. E. E. Daniel.
- To the Banff Foundation: Calgary Personnel Association, \$15; 13th Session of the Banff School of Advanced Management, \$510.72.
- To the University of Alberta, Calgary: Alberta New Democratic Party, \$300; Peter Bawden Drilling Limited, \$500; General Distributors Ltd., \$500; Home Oil Company Limited, \$1,000.
- From C. I. B. A. Company Limited, \$300 grant to the Department of Pharmacology for Dr. E. E. Daniel's use.
- From Cyanamid of Canada Limited, \$1,800 grant to the Department of Entomology for research under the direction of Dr. W. G. Evans.
- From the American Zinc Institute Inc., \$3,500 grant for research under the direction of Dr. J. G. Parr.
- From Charles Plavin, \$12,000. (This money will be held for the present.)
- From Smith Kline & French Inter-American Corporation, \$500 grant for research during the summer in the Faculty of Medicine.
- From the Canadian Cancer Society, Edmonton District Council, \$12,800 grant for research.
- From Beattie-Ramsay Memorial Fund, \$1,000 grant to the Department of Civil Engineering.
- From Corn Industries Research Foundation, Inc., \$8,000 Grant for continuation of research under the direction of Dr. R. U. Lemieux.
- From Monsanto Chemical Co., \$500 grant toward weed control research under the direction of Dr. W. Vanden Born.
- From National Cancer Institute, \$12,320 re 1962-63 awards for cancer research.
- From the Alberta Heart Foundation, \$9,475 being fourth quarterly instalment on grants-in-aid.

- From John Wyeth and Brother (Canada) Limited, \$1,000 donation to the Faculty of Medicine.
- From National Heart Foundation of Canada, \$1,750 being the last quarterly instalment on Research Associateship for Dr. E. C. Elliott, 1961-62.
- From Sun Oil Company, \$250 grant for Petroleum Production and Reservoir Engineering Research.
- From Northwest Nitro-Chemicals Ltd., \$500 grant for nitrogen fertilizer research in the Department of Soil Science.
- From Engineered Buildings Ltd., \$20,000 to the Bursary Fund, 1962.
- To the Banff School of Fine Arts Scholarship Fund: Mrs. W. Macleod, \$100; Miss Marion McRoberts, \$60.
- To the University of Alberta, Calgary: Imperial Oil Limited, \$1,500; Nickle Foundation, \$500; South West Calgary Lions Club, \$800, re support of an African Student on Calgary campus; Dr. M. G. Taylor, \$125, re the Violet Taylor Drama and the Malcolm Taylor Debating Club awards, 1962.
- From the Edmonton Film Society, \$500 to the Department of Extension for the purchase of films.
- From the College of Physicians & Surgeons of Alberta, \$300 to cover the Association's 1961-62 Library Grant.
- From the Kinsman Club of Edmonton, \$1,700 for two summer scholarships for research under the direction of the Faculty of Medicine.
- From the National Institutes of Health, \$5,750 U.S. Funds (\$6,256.71 Canadian Funds), for research under the direction of Dr. C. M. Kay.
- From the Alberta Division, Canadian Cancer Society, \$1,500 representing the first payment on the Association's Summer School scholarships.
- From the Canadian Heart Foundation, \$1,500 covering the last quarterly instalment on fellowship for research under the direction of Dr. R. F. Shaner.
- From the Edmonton Home Economics Association, \$850 to the Mabel Patrick Scholarship Fund.
- From the Multiple Sclerosis Society of Canada, \$6,039 for research under the direction of Dr. J. D. Taylor.

- From Imperial Oil Limited, \$5, 500 re postdoctoral fellowship for research under the direction of Professor H. E. Gunning.
- From Imperial Oil Limited, \$2, 000 for continued research under the direction of Professor H. E. Gunning.
- From Imperial Oil Limited, \$2, 000 for continued research under the direction of Dr. D. B. Robinson.
- From the Alberta Division, Canadian Cancer Society, \$1, 200 covering the April, May and June payments re Dr. Frank Turner Fellowship.
- From Canadian Husky Oil Limited, \$2, 900 for further research on recovery of heavy crude under the direction of Dr. D. L. Flock.
- From Murphy Oil Company Ltd., \$500 for further research on recovery of heavy crude under the direction of Dr. D. L. Flock.
- From the Alberta Funeral Directors and Embalmers Association, \$50 donation to the University.
- From Robin Hood Flour Mills Limited, \$400 contribution for research on Alberta Soft White Spring Wheat, under the direction of Dr. S. Zalik.
- From the Social Credit League of Canada, \$300 donation to the University of Alberta, Calgary.
- To the Banff School of Fine Arts Scholarship Trust Fund: Canadian Handicrafts Guild, Edmonton Branch, \$100; S. R. Vallance, \$100; Mrs. B. B. Winspear, \$150; Mrs. B. J. Lefroy, \$100; North-West Canadian Council, B'nai B'rith, \$50; M. Grumbacher of Canada Limited, \$200.
- From the Canadian Life Assurance Company, \$28 to the Banff School of Fine Arts Scholarship Fund.
- From Dowell of Canada, \$700 for research under the direction of Dr. D. B. Robinson.
- From Harrisons & Crosfield (Canada) Ltd., \$1, 500 grant-in-aid for research under the direction of Dr. C. F. Bentley.
- From Sherritt Gordon Mines Limited, \$500 grant-in-aid for research under the direction of Dr. C. F. Bentley.
- From the John and Mary R. Markle Foundation, \$6, 000 to cover J. and M. Markle Foundation Scholarship for Dr. McLeod.

From the British American Oil Company Limited, \$1,500 as a contribution for petroleum production and reservoir engineering research.

From the Department of National Defence, accountable advances for research \$37,490.

From the Dominion Department of Forestry, \$3,000 grant for research under the direction of Professor J. Longworth.

From the Canada Council, \$50,000 grant to the Banff School of Fine Arts for the addition to the Administration Building.

From the Dominion Department of Transport, \$2,900 grant covering Meteorological Research under the direction of Professor R. W. Longley.

From Eldorado Mining and Refining Limited, \$10,000 being the initial instalment on grant for research project under the direction of Professor Lilge.

From the American Zinc Institute, \$2,106.91 grant being further support of research under the direction of Dr. J. G. Parr.

From E. R. Squibb & Sons of Canada, Limited, \$1,000 grant for the establishment of a clinical pharmacology program under the direction of Professor Daniel.

To the Banff School of Fine Arts Scholarship Fund: Performing Arts, \$9.00; Fifth Annual Rural Leadership Course, \$16.28; 12th Session Banff School of Advanced Management, \$38.08; Art Exhibition, B.S.F.A., 1961, \$294.57; Mr. Wm. Townsend, \$100; Provincial Chapter of Alberta I.O.D.E., \$200; Calgary Herald, \$500; Community Group in Banff, \$100.

From the Canadian Polish Congress, Alberta Branch, a Polish "Olympia" portable typewriter valued at \$154.50, for the Department of Modern Languages.

From the Proctor & Gamble Company, \$5,000 in further support of "Dentifrices Study Project" under Drs. Zacherl and Maclean.

From the Medical Research Council, \$115,000 being the first instalment of the Common Grant Account for 1962-63.

From Federated Cooperatives Limited, \$750 grant for continued research on fertilizer in the Department of Soil Science.

From the Medical Research Council, \$12,000 towards the 1962-63 salaries of Dr. G. R. Schonbaum, \$6,000, and Dr. D. C. Triantaphyllopoulos, \$6,000.

From C. W. Carry, \$1,000 in continued support of medical research.

From Edcal Industrial Agents Ltd., \$750 in continued support of medical research.

From the National Research Council, \$450,000 in payment of the first instalment to the Common Grant Account for 1962-63.

From the Alberta Wheat Pool, \$3,500 in continued support of research in the Department of Genetics.

From the National Cancer Institute of Canada, \$11,900 being the first instalment of cancer research grants for 1962-63.

From Fargo Oils Ltd., \$500 grant for research under the direction of Dr. D. L. Flock.

From Shell Oil Company of Canada, Ltd., \$2,000 grant for field work expenses in connection with Geology research.

From the Muscular Dystrophy Association of Canada, \$1,500 being the third instalment of Dr. Brahms' current fellowship.

From the Muscular Dystrophy Association of Canada, \$1,900 being the second instalment of grant for research under the direction of Dr. C. M. Kay.

From the Alberta Department of Agriculture, \$22,000 covering the grant to the Soil & Feed Testing Laboratory.

From Canadian Husky Oil Ltd., \$500 grant towards research on heavy crude oil under the direction of Dr. D. L. Flock.

From Velsicol International Corp. C. A., \$1,500 (U.S. Funds) grant for research in the Department of Soil Science under the direction of W. H. Vanden Born.

From the Arlington-Fund Laboratories, \$500 being the first instalment on grant for research under the direction of Dr. E. E. Daniel.

From the National Research Council, \$42,800 covering Major Equipment Grants to the following persons: F. C. Adam, \$8,800; J. B. Haddow, \$5,000; R. U. Lemieux, \$8,000; B. G. Wilson, \$16,000; W. V. Youdelis, \$5,000.

From the Department of National Defence, accountable advances for research under the direction of the following persons: H. A. Buckmaster, \$665; B. Hocking, \$1,060; F. W. Wood and J. M. deMan, \$745; C. Heath, \$1,250; C. W. Nash, \$1,420; L. H. Cragg, \$1,080; H. E. Gunning, \$1,565; G. R. Freeman, \$915; D. A. Armstrong, \$490; J. B. Hyne, \$580; W. H. Cottle, \$350; M. Humphries,

\$665; G. D. Garland, \$1,165; J. G. Parr, \$3,165.

To the Banff School of Fine Arts Scholarship Fund: Mr. and Mrs. R. M. Dingwall, \$100; Short Course in Executive Development, \$100.

To the Banff Foundation, \$1,000 from the United Farmers of Alberta Co-operative Limited.

APPENDIX X

NEW SCHOLARSHIPS AND PRIZES

The Alberta Motor Transport Association will provide a number of bursaries annually to matriculants from Alberta High Schools to enter any degree or diploma program at the University of Alberta, Edmonton or Calgary, or a program of University level at a junior college affiliated with the University. The Value will be up to \$500 if the student must live away from home or up to \$300 if the student is able to live at home.

The Great Books Awards will be awarded annually to two graduating students from the Faculty of Arts and Science at the University of Alberta, Calgary; one to a B.Sc., graduate with high standing in arts courses and one to a B.A. graduate with high standing in science courses. These awards are donated by Encyclopedia Britannica of Canada Ltd., and each consists of a 54-volume set of the Great Books of the Western World.

The Industrial Relations Counselors Service, Inc. Prize of \$50 will be awarded annually to the student in the Faculty of Commerce with the highest standing in Personnel 310, provided his record is otherwise satisfactory to the Faculty Council. (Approved only for 1961-62 as yet.) (Subsequently changed to "the Calgary Personnel Association Prize" and made annual.)

The Dental Auxiliaries Award consisting of a prize of \$50 and a medal will be provided annually by the Alberta Dental Association to the student graduating with the highest standing from the Dental Auxiliaries program.

The Arthur D. Cumming Gold Medal is awarded annually to a graduating student in Dentistry for outstanding merit in Dentistry for Children, provided that the final year's average is not less than 75%.

The Arthur D. Cumming Scholarships are offered annually as follows: \$200 to a student entering first year Dentistry for outstanding merit in the pre-professional studies at the University of Alberta, provided that an average of 70% has been attained. \$275 to a student of outstanding merit entering the third year of Dentistry.

The John Wilcox Memorial Prize of the value of \$50 provided by the Petroleum Engineering Class of '53, will be awarded annually to a student of outstanding merit, completing 2nd or 3rd year of Petroleum Engineering. General ability and financial need will be considered as well as academic standing. If no suitable candidate is found in Petroleum Engineering, the prize may be awarded in Chemical Engineering.

The Canada Permanent Trust Company Prize in Wills, of the value of \$50, is offered annually to a student in the Faculty of Law for outstanding merit in the subject of Wills, provided the student's general record is satisfactory to the Faculty Council.

The Southern Alberta Pharmacy Bursary of \$250 is offered annually by the South of Calgary Pharmacists and the Highwaymen (Southern Alberta Drug Travellers) to a student of outstanding ability completing the first year of the Faculty of Pharmacy. The student must have taken the majority of his high school training in Alberta, south of but not including Calgary.

Fruehauf Trailer Company of Canada Ltd. Scholarships of \$300 and \$200 to two outstanding students in programs in Physical Education with special reference to Health Education including Safety. (1961-62 only).

The Delta Delta Delta Alumnae Fellowship of \$1,000 is offered annually by the Delta Delta Delta Alumnae of the University of Alberta to a woman student of outstanding academic merit graduating from a degree program of the University of Alberta and proceeding in the following year in a full-time program towards a post-graduate degree, either at this or any other accredited university.

The Zonta Club of Edmonton Scholarship of \$250 will be awarded annually to a woman student, with high academic standing, enrolled for post-graduate studies at the University of Alberta in the fields of Social Sciences or the Humanities.

The Association of Professional Engineers of Alberta scholarship of \$200 is offered annually to a student of outstanding merit completing the first year and entering the second year of the faculty of Engineering at the University of Alberta, Calgary.

Underwood McLellan & Associates Limited Scholarship in Municipal Engineering of \$200 is to be awarded annually to a student of outstanding merit entering fourth year Civil Engineering in the Municipal Engineering pattern. To qualify the student must have taken a complete third year program in Civil Engineering at the University of Alberta and have attained an average of at least 70%.

The Occupational Therapy Book Prize will be offered annually by the Alberta Society of Occupational Therapists to the student obtaining the highest standing in the final year of the Diploma program in Occupational Therapy providing that his or her record is otherwise satisfactory to the Council of the School.

The Alberta Geography prizes are offered annually by Mr. Donald C. Lofquist, M. A., as follows:

- (i) One prize of the value of \$25 in books, and a one-year student membership in the Canadian Association of Geographers, to be awarded to the freshman student receiving the highest mark in Geography 201, in Edmonton or Calgary.
- (ii) One prize of the value of \$50 in cash, and a one-year student membership in the Canadian Association of Geographers, to be awarded to the second year student in Edmonton specializing in Geography who receives the highest average mark in Geography 300 and Geography 301.
- (iii) One prize of the value of \$50 cash, and a one-year student membership in the Canadian Association of Geographers, to be awarded to the third year student in Edmonton specializing in Geography and who has shown the greatest proficiency in Geography.

The Ukrainian National Association Scholarship of \$100 is offered annually to a student of outstanding merit in Ukrainian Literature 360 provided the student's record is otherwise satisfactory.

The Dr. Ernest A. Johnson Scholarship in Ophthalmology of \$100 will be awarded annually to a student of outstanding merit graduating from the Faculty of Medicine.

The Canadian Construction Association Essay Prize of \$50 and an Engineer's Handbook will be awarded annually for the best essay on a subject related to construction, by a student in the final year of the Faculty of Engineering.

The Associated Hospitals of Alberta Gold Medal and a prize of \$25 will be given to the student graduating with the highest distinction from the B.Sc. program in Medical Laboratory Science.

The Associated Hospitals of Alberta Prize in M. L. S. of \$50 is offered annually to a student of outstanding merit completing the second year of the Medical Laboratory Science program.

The Crown Zellerbach Canada Limited Matriculation Scholarships of \$1,500 each are offered annually to two Canadian students of outstanding academic merit who are entering the Faculty of Education, University of Alberta. One scholarship will be tenable at Edmonton and one at Calgary.

The Crown Zellerbach Canada Limited Scholarships in Education of \$500 each are offered annually to two Canadian students of outstanding merit who hold an undergraduate degree from the University of Alberta (either Edmonton or Calgary) and who are proceeding towards a Bachelor of Education degree. One scholarship will be tenable at Edmonton and one at Calgary.

The Russell Food Equipment Limited Scholarship of \$350 is offered annually to a suitably qualified student graduating from the School of Household Economics at the University of Alberta, who is proceeding, either at this or any other approved university, in a M.Sc. program in Foods, Nutrition, or Institution Management, or proceeding into a Dietetic Internship at an approved institution.

The William Rowan Memorial Scholarship of \$100, in memory of the late Dr. Rowan, former Head of the Department of Zoology, will be offered annually to a student of outstanding merit entering the fourth year of the Honors Zoology program.

The Alberta Phoenix Tube and Pipe Limited Fellowship in Metallurgy of \$1,500 is offered annually to a graduate of any recognized University to pursue post-graduate study in Metallurgy or Metallurgical Engineering at the University of Alberta.

The Ukrainian Women's Association of Canada (Alberta Branch) Scholarship of \$100 is offered annually to a student of outstanding merit in Ukrainian 300, provided the student's record is otherwise satisfactory.

The Alberta Society of Pathologists Prize in M. L. S. of \$25 is offered annually to a student of outstanding merit completing the first year of the Medical Laboratory Science program.

The IBM - Thomas J. Watson Memorial Bursaries of a total annual value of \$1,000 are provided by International Business Machines Company Limited for undergraduates in any year or faculty who are in need of financial assistance and who have an academic standing of at least 65%.

The Ernest Brown Wilson Memorial Prize in Law of \$100 will be awarded annually to a student in the graduating class in Law. The award will be based on outstanding merit in the work prescribed for the third year of the LL. B. degree.

The Dr. Geneva Misener Memorial Scholarship of \$300 provided under the will of the late Dr. Misener will be offered annually to a student of outstanding merit completing the third year of an honors program in Classics or Modern Languages at Edmonton, provided first class standing has been achieved on the year's work.

The Civil Service Association of Alberta Graduate Fellowship of \$1,000 will be offered annually to a graduate of any recognized university for post-graduate study at either the same or any other recognized university. Applicants must be members of the said association or children of members. There is no restriction on field of study but the research project should, in some measure at least, be of interest and value to the Association.

The J. M. Sharpe Memorial Prize of \$100 provided in his memory by Electric Equipment (Alberta) Ltd., will be awarded to the student obtaining the highest standing in the Electrical Engineering subjects, E. E. 330, E. E. 350, and E. E. 370, in the third year of the Electrical Engineering program, provided that the student obtains an overall average of at least 75% in these subjects and that he is registered in a program of normal weight.

The Elbow River Lodge, A. F. & A. M., Memorial Bursary of \$300 is offered annually to a student completing first year and entering the second year of any faculty of the University of Alberta, Calgary. The award is on the basis of academic standing and financial need and is restricted to a resident of the Province of Alberta.

The Kiwanis Club of Southwest Calgary Prize of \$50 will be awarded to a student at the University of Alberta, Calgary, for outstanding merit in Agriculture or Botanical Science.

The Peace River Pioneer Memorial Scholarship in Music of \$200, endowed by Mr. Charles Plavin of North Star, Alberta, will be awarded annually to a student of outstanding merit completing the first or second year of the Bachelor of Music program at the University of Alberta, Edmonton. The Department may, at its discretion, divide the award. It is hoped that recipients of these scholarships will be interested in music instruction for school age children.

The Peace River Pioneer Memorial Bursaries, provided by Mr. Charles Plavin of North Star, Alberta, may be awarded to high school graduates whose homes lie north of Township 68 and West of the 5th Meridian in the Province of Alberta and who are proceeding into first year of the University of Alberta or of an institution of university level affiliated with the University and located in the above area. The awards may be variable in amount and will be made on a basis of high academic standing and financial need.

The Canadian Arthritis and Rheumatism Society (Alberta Division) Bursaries of \$350 each are offered to three matriculants entering first year of the School of Physical Therapy and Occupational Therapy at the University of Alberta on a basis of academic standing in Grade XII and of financial need.

Calgary Gyro Club Scholarship in Education of the value of \$400 is offered annually to a student of outstanding merit who holds an undergraduate degree from the University of Alberta and who is proceeding towards a B. Ed. degree in Calgary.

The Canada Law Book Company Prize in Law is awarded for outstanding merit in the work prescribed for first year of Law. The Prize consists of books to the value of \$75 to be selected from a list submitted by the Canada Law Book Company.

The Industrial Acceptance Corporation Limited Scholarship of the value of \$500 is offered annually to a student at the University of Alberta proceeding to the degree of Bachelor of Commerce (General Course) for outstanding merit in the courses of the first and second years. The scholarship will be paid in two equal instalments; the first on registration in the third year and the second on registration in the fourth year. Payment of the second instalment is subject to the student obtaining an average of at least 70% in the courses of the third year.

The Polish Canadian Congress of Alberta Scholarship of \$100 is offered annually to a student for outstanding merit in any Polish Language course at the University of Alberta, provided his record is otherwise satisfactory to the Faculty Council.

The Lennie M. McNeill Memorial Scholarship of \$100 provided by the Soroptimist Club of Edmonton is offered annually to an undergraduate women student of outstanding merit in the Faculty of Commerce, University of Alberta, Edmonton. The award may be made to a student in any year except her graduation year and shall be based on her performance in the year in which the award is made.

The Alberta Piano Company Scholarship in Music of \$100 is offered annually to a student of outstanding merit completing the first or second year of a Music program at the University of Alberta, Calgary.

The Calgary Musical Club Prize of \$50 will be awarded annually to a student in music at the University of Alberta, Calgary, who in the opinion of the Music Department at Calgary has made an outstanding contribution to the musical life of the University. Financial need may be taken into consideration.

APPENDIX XI

THESES COMPLETED

November 1961

Degree of Doctor of Philosophy

- Brown, Alan Fergus, B. A., B. Ped., M. Ed. "The Differential Effect of Stress-Inducing Supervision on Classroom Teaching Behavior. " (Educational Administration).
- Dormaar, Johan Frederick, B. S. A., M. S. A. "A Study Concerning the Determination of Organic Phosphorus in Soils. " (Soil Chemistry).
- Drolet, Jean-Yves, B. Ed., M. Ed. "A Study of the Impact of Demographic and Socio-Economic Factors on School Attendance Rates in the Province of Quebec from 1901 to 1959. " (Educational Administration).
- Enns, Frederick, B. Ed., M. Ed. "The Legal Status of the Canadian Public School Board. " (Educational Administration).
- Ewen, Alwyn Bradley, B. A., M. A. "Studies on Neurosecretion in the Alfalfa Plant Bug, *Adelphocoris lineolatus* (Goeze) (Hemiptera: Miridae). " (Entomology).
- Hunt, Graham Hugh, B. Sc., M. Sc. "The Purcell Eruptive Rocks. " (Geology).
- Jones, Thomas Parry, B. Sc. "Kinetic Studies on the Hydrolysis of Chromium (III) Complexes. " (Chemistry).
- Keeler, Bernard Trueman, B. A., B. Ed., M. A. "Dimensions of the Leader Behavior of Principals, Staff Morale and Productivity. " (Educational Administration).
- Lutwick, Gerald Douglas, B. Sc., M. Sc. "Column Efficiency in Gas-Liquid Chromatography. " (Analytical Chemistry).
- Melnyk, John, B. S. A., M. Sc. "The Hybrids of *Aegilops* X *Secale*. " (Genetics).
- Peters, Herbert Daniel, Th. B., M. A. "An Experimental Application of the Concepts of Image and Plans to the Counseling Setting. " (Educational Psychology).

Ritter, Robert Arthur, B. E., M. Sc. "A Theory of Thixotropic Behavior and its Application to Pembina Crude Oil. " (Chemical Engineering).

Shamsuddin, Mohammad, B. Sc., M. Sc. "A Study of the Behavior of Larval Tabanids (Diptera: Tabanidae) in Relation to Light, Moisture and Temperature. " (Entomology).

Degree of Doctor of Education

Ready, Laurence Maxwell, B. A., B. Ed. "The Preparation Needs of Superintendents in Large Administrative Units in Saskatchewan. " (Educational Administration).

Degree of Master of Arts

Arbuckle, John, M. A. "Phonology of the Volhynian German Dialect of the Edmonton Area. " (General Linguistics).

Bancroft, Donald Asa, B. Sc. "Equalization of Assessments in Alberta: The Principles, Authorities and Methods. " (Economics).

Brese, William Gerald, B. A. "An Analysis of the Sulphur Industry in Alberta. " (Economics).

Brice, Gerald Edward, B. A. "The Development of Greek and Latin Elegiac Poetry and its Influence upon John Milton's Latin Elegies, Together with a Translation of these Elegies into English Verse. " (Latin).

Crouse, Dorothy Jean, B. A. "A Study of Overinclusion and Underinclusion on the Picture Completion Test of the Wechsler Adult Intelligence Scale. " (Psychology).

Fish, David Gomer, B. A. "Some Sociological Aspects of a Fluoridation Plebiscite. " (Sociology).

Porges, George, B. A., B. A., B. Ed. "The Territorial Settlement of the Austrian Crown Lands, with Special Reference to Czechoslovakia, Italy and Yugoslavia, 1918-1919. " (History).

Samuel, George, B. A. "The Christ Figure in Blake and Shelley. " (English).

Seary, Peter David, B. A. "The Theme of Creativity in the Novels of Joyce Cary. " (English).

Wilkinson, Bruce William, B. Com. "The Acceleration Principle in Economics Theory." (Economics).

Wright, Albion Richard, B. A., B. D. "Usury: Theory and Practice in the Medieval Period." (Economics).

Degree of Master of Science

Bramley-Moore, Richard Alwyn, B.Sc. Mining Eng. "Oxidation of Stibnite." (Metallurgical Engineering).

Bukhari, Syed Amir, B.Sc. "A Linear Programming Approach to the Interpretation of Earth Resistivity Data." (Physics).

Channon, John Robert, B.Sc. Civil Eng. "The Ultimate Load Capacity of Steel Frames." (Civil Engineering).

Clark, John Ivor, B.Sc., B. Eng. "A Study of Shrinkage Soil-Cement." (Civil Engineering).

Evans, Roger Malcolm, B.Sc. Arts "Courtship and Mating Behavior of Sharp-Tailed Grouse. (*Pedioecetes phasianellus jamesi*, Lincoln)." (Zoology).

Gibb, James Woolley, B.Sc. Pharm. "The Effect of Certain Hormones on Tissue Respiration in the Rat." (Pharmacy).

Gibbons, William Anthony, B.Sc. "Mercury Photosensitized Reaction of Cyclopentene." (Chemistry).

Grunder, Allan Angus, B. S. A. "Relationship Between Blood Group Genes and Economic Traits of Poultry." (Poultry Genetics).

Hassan, Asif Uddin, B.Sc., M.Sc. "Some Experiments on Superfluidity in Liquid Helium II." (Physics).

Hui, Yin Yew, B.Sc. "Moment Generating Functional Equations of Certain Stochastic Learning Models." (Statistics).

Ibrahim, Sami Ahmad Sobhi, B.Sc. "An Assessment of Wind Erosion Damage to Alberta Soils." (Soil Conservation).

Jamieson, Norman Clark, B.Sc. "Preparation of Some Mercapto Monosaccharides." (Organic Chemistry).

Jenkins, Robert Walter, B.Sc. "Meteorological Effects of Cosmic Radiation at Intermediate Depths Underground." (Physics).

- Jull, Robert Kingsley, B.Sc., Arts. "Silurian Halysitidae of Western Canada." (Geology).
- Kuryvial, Miles Steve, B.Sc., Agric. "Energy Digestibility Nitrogen Retention, Efficiency of Feed Utilization and Carcass Characteristics of Pigs Fed Varying Levels of Fat and Protein." (Animal Nutrition).
- Lentz, Wilbert Emil, B.Sc., Agric. "Genetic and Environmental Variance and Covariance in Beef Cattle Performance Characteristics." (Animal Breeding).
- McKay, Mary Winifred, B.Sc., Arts. "Mississippian Foraminifera of the Southern Canadian Rockies, Alberta." (Geology).
- Marguardt, Ronald Ralph, B.S. A. "The Effects of the Water Soluble Components of Forages in the in vitro Cellulolytic Activity of Rumen Microorganisms." (Animal Nutrition).
- Miller, Richard Graham, B.Sc., Arts. "A Coincidence Gamma-Ray Spectrometer with Applications." (Physics).
- Neumann, Ellenor Ingrid, B.Sc., Arts. "Investigations of Reactions of Possible Analytical Value for Uric Acid." (Biochemistry).
- Patton, Adery Catherine Alison, B.Sc. "The Approximate Distribution of the Ratio of the Square Successive Difference to the Square Difference in Observations from a Stationary Normal Markov Process." (Statistics).
- Shivak, Robert John, B.A., B.S.P. "The Influence of Reserpine on Peripheral Vascular Responses to Hypercapnia." (Pharmacology).
- Srivastava, Lakshmi Prakash, B.Sc., Metall. Eng. "Martensite in Titanium, Zirconium and Titanium-Copper Alloys." (Metallurgical Engineering).
- Swinson, Derek Bertram, B.Sc. "Variations in Extensive Air Showers." (Physics).
- Tomusiak, Edward Lawrence, B.Sc., Eng. Physics. "Two Electron Capture by Fast Alpha Particles in Helium." (Theoretical Physics).
- Tyner, James Grant, B.Ed., Physical Education. "Mechanisms Increasing Thyroxine Requirement of Rats in Cold." (Physiology).
- Watanabe, Roy Yoshinobu, B.Sc. "Geology of the Waugh Lake Metasedimentary Complex, Northeastern Alberta." (Geology).

- Watkins, Norman David, B.Sc., M.Sc. "Studies in Paleomagnetism." (Geology).
- Watt, William Gordon, B.Sc. Civil Eng. "Stabilization of a Highly Plastic Clay with Lime and Pozzolan." (Civil Engineering).
- Weijer-Tolmie, Dorothy Lilian, B.Sc. "Excretion Studies, Total Body Radiation, and Radiation to the Blood in Patients Treated with Radioactive Phosphorus (P^{23}) for Polycythemia Rubra Vera." (Clinical Radiation Biology).
- Whitehouse, Ronald Leslie, B.Sc. Dairying. "Disinfection with Sodium Hydroxide and its Application to Milk Production." (Dairy Microbiology).
- Yates, Celia Mary, B.Sc. Pharm. "Effect of Reserpine on the Reactivity of Isolated Rabbit Blood Vessels." (Pharmacology).

Degree of Master of Education

- Carran, Raymond Clarence, B.Ed. "A Study of Student and Adult Attitudes Towards the Technical Electives Program in Edmonton Composite High Schools." (Educational Administration).
- Fenskè, Milton Reinhold, B.Ed. "An Analysis of the Work-Week for a Sample of Central Alberta High School Teachers." (Educational Administration).
- Glennon, Mary Bernardette, B.A., B.Ed. "An Investigation of the Relationships Between Two Speeded Tests of Visual-Motor Skills and a Measure of Reading Achievement." (Educational Psychology).
- Jenkinson, John Albert, B.Sc., B.Ed. "The Educational Ideas of St. Augustine." (Educational Foundations).
- McBride, Billie Eleanor Jean, B.Ed. "The Parental Identifications of Adolescents." (Educational Psychology).
- Mann, George Adolph, B.Ed. "Alberta Normal Schools: A Descriptive Study of their Development, 1905-1945." (Educational Foundations).
- Purvis, Neil MacLean, B.Sc. Arts. "A Survey of Second Language Programs for English-Speaking Children in Grades One through Nine in Canadian Schools." (Secondary Education - Foreign Languages).

- Radomsky, Steve William, B.Sc. Arts. "A Comparative Study of the High School Physical Science Programs for Two School Years, 1935-36 and 1959-60. " (Secondary Education - Science).
- Routledge, Robert Henry, B. Ed. "A Study to Establish Norms, for Edmonton Public Secondary School Boys, of the Youth Fitness Tests of the American Association for Health, Physical Education, and Recreation. " (Secondary Education - Physical Education).
- Swan, Joseph Francis, B. A., B. Ed. "A Historical Survey of the Board of Reference in Alberta. " (Educational Administration).
- Traub, Ross Eugene, B. Ed. "Social Desirability in the Rural High School. " (Educational Psychology).

May 1962

Degree of Doctor of Philosophy

- Azuma, Yasuo, B.Sc., M.Sc. "Detection of Some Chemical Changes Caused by Psychrophilic Micro-organisms in Milk. " (Dairy Microbiology).
- Cope, Oswald James, B.Sc. "Reduction of Aromatic Nitro Compounds by Sulphide and Hydrosulphide. " (Organic Chemistry).
- Demirlicakmak, Ahmet, Doctor of Agricultural Science. "The Relation of Seed Size to Loose Smut Infection and Yield in Barley. " (Plant Genetics).
- Grieve, Clarence Melross, B.S.A., M.Sc. "Pelleted Rations for Sheep: Effects on Feed Consumption and Utilization, Volatile Fatty Acid Production and Fermentation Rate in the Rumen. " (Animal Nutrition).
- Knight, Arthur Robert, B.Sc. "The Reaction of Alcohol Vapours with $\text{Hg } 6 \text{ } (^3\text{P}_1)$ Atoms. " (Physical Chemistry).
- Moon, John Wesley, B. A., M. A. "On Some Combinatorial and Probabilistic Aspects of Bipartite Graphs. " (Mathematics).
- Poole, John Anthony, B.Sc. "The $^{198}\text{Hg } 6 \text{ } (^3\text{P})$ and $^{201}\text{Hg } 6 \text{ } (^3\text{P})$ Photosensitized Decomposition of Hydrogen Chloride in the Gas Phase. " (Physical Chemistry).
- Quadier, Syed Jamal, B.Sc., M.Sc. "Studies on the Hydrates of Nickel Chloride. " (Chemistry).

- Chandra, Ganapathy Ram, B.Sc., M.Sc. "Studies on Ethylene Production by Sub-cellular Fractions." (Biochemistry).
- Revzen, Michael, B.Sc., M.Sc. "Green's Function Approach to the Many-Body Problem." (Theoretical Physics).
- Sheratte, Martin Bernard, B.Sc., B.Sc., M.Sc. "The Homogeneous Reduction of Alkynes by Chromium (II)." (Organic Chemistry).
- Singh, Harwant, B.Sc., M.Sc. "Stability of Rat Tissue Lipids." (Biochemistry).
- von Fange, Erich Alvin, B.Sc., M.A. "Implications for School Administration of the Personality Structure of Educational Personnel." (Educational Administration).

Degree of Master of Arts

- Black, Alexander James, B.A. "The Hero in English Drama to 1613: Techniques in Characterization." (English).
- D'Alquen, Richard John Engelbert, B.A. "Phonology of the Galician German Dialect of Stony Plain, Alberta." (General Linguistic Studies).
- Greene, Gordon Kay, B.A., B.Ed. "The Work of Art as a Symbol." (Philosophy).
- Jones, James Barry, B.A. "A Comparative Survey of Factors Relevant to the Electoral Decline of the British Labour Party During the Fifties." (Political Science).
- Rendall, Harold Arthur, B.A. "The Trade Areas of Camrose, Wetaskiwin and Ponoka." (Geography).
- Sartoris, Paul Charles, B.A. "An Exploratory Study of Motivational Patterns in Women." (Psychology).
- Scheer, Herfried Wolfgang, B.A. "Sprachliche Untersuchung der Altesten Chronik der Hutterischen Brüder." (German).
- de Heere, Roekie Scheltema, Canditaats. "Selected Dynamic Models in Economics: A Review." (Economics).
- Simpson, Margaret Ann, B.A. "Plautus and Molière." (Classics).
- Tittmann, Barclay, B.A. "La Celestina: The First Act Re-examined." (Modern Languages - Romance).

Degree of Master of Science

- Adams, Glen Darrel, B.Sc. "Ecology of the Columbian Ground Squirrel in the Sheep River Region." (Zoology).
- Carlson, Herbert Clifford, V.S., D.V.M. "Studies on Carbon Monoxide poisoning in Chicks." (Animal Science).
- Chudobiak, Joseph Morris, B.Sc. "An Experimental Study of Axis-Symmetric Inverted Extrusion and Piercing." (Mechanical Engineering).
- Cseuz, Kalman Alexander Julius, M.D. "Peripheral Nerve Implantation Studies in Experimental Paraplegia." (Surgery).
- Delorme, Denis Larry Eugene, B.A. "A Stratigraphic Study of the Regina Basin, Saskatchewan." (Geology).
- Diamond, Jack, B.Sc. "The Effects of Chlorpromazine on Phosphorus Metabolism in the Male Rat." (Pharmacy).
- Forbes, Robert Lister, B.Sc. "The Gibbs Phenomenon of Sequences and Fourier Series." (Mathematics).
- Fortin, Emery R., B.A., B.Sc. "Photoconductivity of Monocrystalline Cuprous Oxide." (Physics).
- Fulford, Dennis Rodney, B.Sc. "Observation of Corpuscular Streams by Radio Methods." (Physics).
- Gilbertson-Pritchard, Kenneth Colin, B.E., B.E. "A Model Study of an Unconsolidated Sandstone System." (Petroleum Engineering).
- Goettel, Adolph William, B.Sc. "The Potassium Status of Some Alberta Soils." (Soil Science).
- Jones, Verne Charles, B.Sc. "Durability Tests on an Asphalt Stabilized Sand." (Civil Engineering).
- Kirmani, Khalil-Ullah, B.Sc., B.Sc. "The Duhamel Reef." (Geology).
- Knowles, John Allen, B.Sc. "Soil-Asphalt Stabilization with a Lime Additive." (Civil Engineering).
- Kraemer, Ivan Frederick, B.Sc. "The Effect of Strain Hardening on the Ultimate Load Capacity of Steel Frames." (Civil Engineering).

- Masing, Ulv, B. A. "The Agricultural Landscape of Eastern El Salvador. " (Geography).
- Miller, John Martin, M. B., Ch. B. "Pulmonary Function in Anklosing Spondylitis. " (Medicine).
- Nehra, Chandra Prakash, B. Sc., M. Sc. "Cosmic Ray Intensity Increases Associated with Solar Flares. " (Physics).
- Nelson, Joseph Schieser, B. Sc. "Effects on Fishes of Changes Within the Kananaskis River System. " (Zoology).
- Ottley, Horace Erstein Ramus, B. Sc. "Swelling Properties of Expansive Clays. " (Civil Engineering).
- Pennell, Douglas Gordon, B. Sc. "Structural Comparison of a Sand-Asphalt and Soil-Cement. " (Civil Engineering).
- Rogers, James Stewart, B. Sc. "Lorenz Number of Aluminum. " (Physics).
- Sawyer, Charles Donald, B. Sc. "Alterations in the Composition of Organic Matter as Related to Podzolic Degradation of Chernozemic Soils. " (Soil Science).
- Sortland, Lyman Dale, B. Sc. "The Gas Hydrate Systems of Sulfur Hexafluoride and Sulfur Hexafluoride-Methane. " (Chemical Engineering).
- Steiner, Johann, B. Sc. "Lower Miette Rocks at Jasper, Alberta. " (Geology).
- Thomasos, Felix Ian, B. S. A. "Some Physical Factors Influencing Moisture Dispersion and Stickiness of Butter. " (Dairy Technology).
- Turek, Andrew, B. Sc. "Geology of Lake Cinch Mines Limited, Uranium City, Saskatchewan. " (Geology).
- Turner, Frank Watson, M. B., Ch. B. "An Experimental Study of Isolation Perfusion and Infusion Techniques in Regional Cancer Chemotherapy. " (Surgery).
- Yorath, Christopher John, B. Sc. "Micropaleontology of the Deer Bay Formation, Arctic Archipelago, Canada. " (Geology).

Degree of Master of Education

- Beere, Reginald Henry, B. Ed. "Some Aspects of Business Education in Canada with Particular Reference to Alberta. " (Secondary Education - Business Education).
- Evans, William Hyndman, B. Ed. "Certain Grouping Combinations Used in Split-grade Classes in the Elementary School. " (Educational Administration).
- Hrynyk, Nicholas P., B. Ed., B.Sc. "A Descriptive Survey of School Division Secretary-Treasurer. " (Educational Administration).
- Konrad, Abram Gerhard, B. A. "Public Support of Private Education: An Analysis of Practice and Opinion in Alberta and British Columbia. " (Educational Administration).
- Oliva, Frank Daniel, B. Ed. "A Survey of Drama Education in Alberta Junior and Senior High Schools. " (Secondary Education-Drama).
- Olson, David Richard, B. Ed. "The Influence of Foreign Language Background on Performance on Selected Intelligence Tests. " (Educational Psychology).
- Parks, James Hamilton, B.Sc., B. Ed. "A Survey of Student Government Practices in Alberta Junior High Schools. " (Secondary Education).
- Rancier, Gordon James, B. Ed. "Ten Case Studies of High School Drop-Outs in the Acadia School Division. " (Secondary Education).
- Reid, Ruth Lillian, B. Ed. "The Auditory Aspects of Reading Readiness. " (Elementary Education).
- Russell, Ralph Thomas, B. Ed. "Parental Opinion on Home-School Communication. " (Educational Administration).

APPENDIX XII

DEGREES AND DIPLOMAS AWARDED

	Degrees Awarded				Total
	Sept. 1961	Nov. 1961	May 1962	May 1962	
Arts and Science					
B. A.		47	183		230
B. Sc.		40	144		184
B. Mus.		1	1		2
Agriculture					
B. Sc.		2	34		36
Commerce					
B. Com.		4	54		58
Dentistry					
D. D. S.		2		33	35
Education					
B. Ed.		275	157		432
B. Ed. in Ind. Arts		1	3		4
B. Ed. in Phys. Ed.			1		1
Engineering					
B. Sc. Chem. Eng.			31		31
B. Sc. Civil Eng.		7	60		67
B. Sc. Elect. Eng.		5	64		69
B. Sc. Mech. Eng.		2	22		24
B. Sc. Metall. Eng.		1	3		4
B. Sc. Mining Eng.			2		2
B. Sc. Petroleum Eng.		4	4		8
B. Sc. Eng. Physics		3	10		13
Household Economics					
B. Sc.		2	21		23
Law					
LL. B.	3		33		36
Medicine					
B. Sc. in M. L. S.		3	9		12
M. D.		2		52	54

		Degrees Awarded				Total
		Sept. 1961	Nov. 1961	May 1962	May 1962	
Nursing						
	B. Sc.		2	20		22
Pharmacy						
	B. Sc.		8	42		50
Physical Education						
	B. P. E.		6	28		34
Graduate Studies						
	M. A.		11	10		21
	M. A. in Education					
	M. Sc.		32	29		61
	M. Ed.		11	10		21
	Ed. D.		1			1
	Ph. D.		13	13		26
B. D. Committee						
	B. D.		3			3

		Diplomas Awarded				
		Sept. 1961	Nov. 1961	May 1962	May 1962	Total
Arts and Science						
Associate in Music			4	3		7
Int. Dip. in Art				2		2
Dip. in Art				1		1
Nursing						
Nursing			82	42		124
Public Health Nursing			1	15		16
Teaching and Supervision			1	11		12
Physiotherapy		28				28

APPENDIX XIII

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